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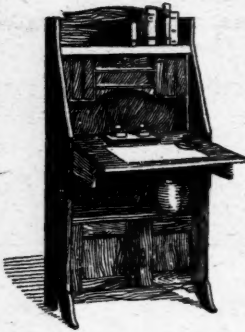
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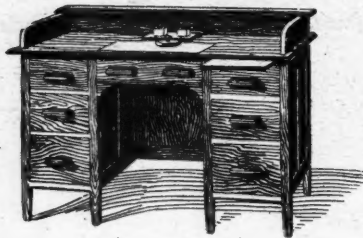
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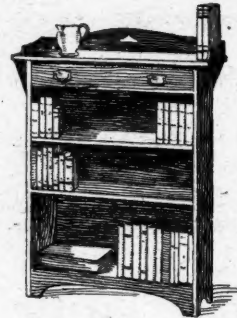
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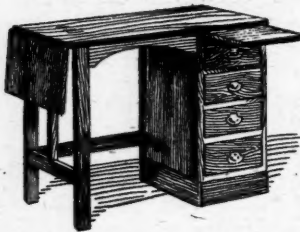
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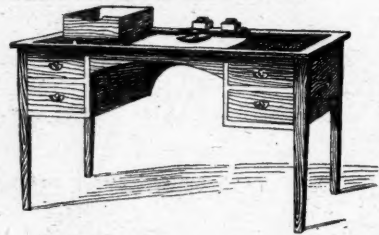


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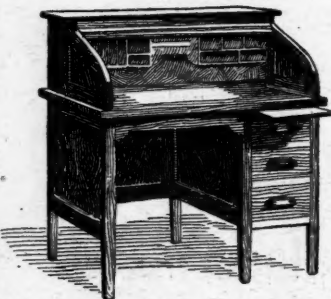
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THE MEDICAL JOURNAL OF AUSTRALIA.

VOL. I.—8TH YEAR.

SYDNEY: SATURDAY, JANUARY 29, 1921.

No. 5.

OBSERVATIONS ON THE TREATMENT OF EGYPTIAN BILHARZIASIS BY TARTAR EMETIC.

By **Walter Summons, O.B.E., M.D., D.P.H.,**
Honorary Physician, Alfred Hospital;
and

Harold Irving, M.B., B.S.,
Medical Officer, No. 11 Australian General Hospital, Caulfield.

When the Australian troopers who had become infected with bilharzia in Egypt, arrived back in Australia they were treated in various ways and finally discharged to civil life as incurable. This happened before the end of 1917. Since that date Christopherson (1) discovered the value of tartar emetic if given intravenously and in sufficiently large doses. The results of the treatment at No. 11 Australian General Hospital have most dramatically demonstrated the value of the drug. At the time of re-admission for tartar emetic treatment, the stage of localized disease had been reached and the majority of patients had active ova in their urine or faeces or in both. In some no ova were detected, but they presented signs of active disease in the bladder. These patients are now free from symptoms, living ova cannot be detected in their discharges, the bladder lesions are healed and they are apparently cured.

The earlier symptoms of these patients before they were invalided home have been ably set forth by F. B. Lawton (2) and N. Hamilton Fairley (3). The patients have not been subjected to repeated risks of infection; after leaving Egypt they have not again been infected. Seeing that infestation occurred more than three years previously and during the intervening period up to the time of re-admission symptoms persisted, it is obvious that a natural cure did not take place. Many of the patients had been treated during this time with perchloride of mercury, thymol, urotropine, eusol or salvarsan, but without benefit.

During the initial toxic period of the disease in our patients Lawton had found only the lateral-spined ovum of *B. mansoni*; vesical symptoms had not then appeared. Subsequent examinations both in Egypt by Fairley and in Australia by Watson and others have demonstrated that many were cases of infection with *B. hamotobia* as well. Microscopical examination now reveals that ova could be demonstrated in 26 out of 30. The diagnosis in the remaining 4 was based on the history and present symptoms, confirmed by cystoscopic examination and the finding of a definite eosinophilia. The presence of the ova is set out in the table; alongside is placed the quantity of tartar emetic injected before ova disappeared and also the total amount of the drug given. It will be noticed that there were eleven double infestations; also that the ova of *B. hamotobia* were more commonly found in contra-distinction to the early findings in the same patients.

The symptoms usually complained of when the patients came for treatment were terminal hæmaturia, either continuous or intermittent, occasional diarrhoea

with blood in the stool and cough. The men were in many cases obviously anemic and debilitated; they stated that they were under weight. Symptoms will not be discussed at length as the main object of this paper is to demonstrate the value of tartar emetic in the treatment. The cough, however, is interesting. It was a common symptom. One man was invalided from Egypt on account of an alleged chronic bronchitis. It was not till he had been in Victoria over a year that bladder symptoms developed.

Opportunity has been taken to have a radiographic examination of their lungs made while in hospital; the results are set forth by Dr. Stuart Cross in an addendum note to this paper.

The diagnosis rested on a high eosinophilic count, the presence of the ova in the urine or faeces and on the discovery of the characteristic lesions in the bladder by cystoscopic examination. In four of the patients admitted the condition was considered to be non-bilharzial; they are not included in this series. The pathological condition of the bladder wall due to the disease and the change brought about by treatment are dealt with separately by Dr. Gordon Shaw.

The complement fixation test of Fairley (4) could not be performed owing to the impossibility of obtaining antigen.

The treatment consisted in the intravenous administration of tartar emetic. This was made up in sterile solution of strength 0.03 grm. of the drug in 10 c.cm. of normal saline solution. Injections were made on alternate days as far as possible, the dose being increased by 0.03 grm. till a maximum of 0.12 grm. was given. In several cases attempts were made to increase the dose further, but the larger amounts always produced vomiting, headaches and limb pains. A single dose exceeding 0.12 grm. is not recommended. The technique was by the subcutaneous venous puncture; the solution was allowed to run in by gravity. A quantity of saline solution was introduced before and after the tartar emetic solution. The total doses given to the patients are set out in the table.

Shortly after administration and at times even before this was complete, the patients had violent coughing and very frequently vomited. The injections were therefore given when the stomach was empty. A frequent symptom was pains in the joints, particularly the shoulder joints. The patients, as a rule, were able to walk about in an hour or two and many got up immediately the injection was completed. The drug had a cumulative action, for the untoward symptoms were most marked, near the end of the course. During treatment also the patients nearly all lost weight and did not feel in their usual state of health. Great care was taken to introduce the drug into the vein without leakage into the tissues and in consequence there was no local irritation.

As the result of the treatment it can confidently be stated that the patients are cured. There has been a complete disappearance of the characteristic symptoms constantly present before the treatment was applied. Repeated examination of the

excreta for ova has failed to find them. The bladder lesions as seen through the cystoscope have become inactive. Some months have now elapsed since the patients were treated. Two patients on reporting complained of symptoms, so that re-admission was advised. After repeated examination no active ova had been found, but degenerate ova were once found in a specimen of urine. Of far greater importance than the benefit to the individual patient is the fact that the menace of bilharziosis to Victoria has been removed in so far as the introduction of the disease from infected soldiers returning from Egypt is concerned.

fore, a future appendicitis must be regarded as consequent to the infection and a war disability.

Twice after treatment was commenced while blood for films was being taken from the fingers of patients to make differential leucocytic counts, W. O. Weir was surprised to find ova in the films. There were as many as six on the slide. Utmost care was exercised to prove that these were not local or other contaminations and on taking fresh films ova were again discovered. The presence of ova in the circulating blood in large numbers has not been noted by other observers. It is conceivable that under the action of the tartar emetic the parasites prior to

TABLE I.

Presence of Ova in Urine or Faeces.	Ovum Found.	Injections Before Ova Disappeared.		Total Injections.		Remarks.
		No.	Amount. gm.	No.	Amount. gm.	
+	—	..	T.	..	9 0.9	..
+	—	..	T.	..	12 1.26	..
+	—	..	T.L.	..	11 1.08	.. Two degenerate ova only seen
+	—	..	T.L.	..	7 0.81	..
+	—	..	T.L.	..	18 2.25	..
+	—	..	T.L.	..	7 0.6	..
+	—	..	T.L.	..	12 1.17	..
Not found	—	..	8 0.78	.. Cystoscopic diagnosis
+	—	..	T.	..	12 1.26	.. Appendicectomy
Not found	—	..	9 0.9	.. Ova found in Egypt; cystoscopic diagnosis
Not found	—	..	9 0.9	.. Ova found in Egypt; cystoscopic diagnosis
+	—	..	T.	..	6 0.54	..
—	+	..	L.	..	12 1.26	..
+	—	..	L.	..	13 1.38	..
+	—	..	T.L.	..	6 0.48	..
+	—	..	T.	..	11 1.08	..
+	+	..	T.L.	..	7 0.66	..
+	+	..	T.L.	..	15 1.62	..
+	+	..	T.L.	..	8 0.63	..
+	+	..	T.L.	..	12 1.08	..
+	—	..	T.L.	..	13 1.29	..
+	—	..	T.L.	..	20 1.92	..
+	—	..	T.L.	..	4 0.3	..
+	—	..	—	..	12 1.26	..
+	—	..	—	..	7 0.63	.. Only few degenerate ova seen
+	—	..	—	..	11 1.14	.. Only few degenerate ova seen
+	—	..	—	..	12 1.23	.. Only few degenerate ova seen
+	+	..	T.L.	..	9 0.79	..
+	+	..	T.L.	..	10 1.05	..
+	—	..	T.L.	..	15 1.65	..
+	—	..	T.L.	..	5 0.42	..
+	—	..	T.	..	14 1.44	..
+	—	..	T.	..	4 0.18	..
Not found	—	..	14 1.5	..
+	+	..	T.L.	..	10 1.02	.. Cystoscopic diagnosis
+	—	..	T.L.	..	6 0.63	..
+	—	..	T.	..	9 1.17	..
+	—	..	T.L.	..	5 0.42	..
+	—	..	T.L.	..	9 0.9	..
+	+	..	L.	..	22 2.57	.. Appendicectomy
+	+	..	T.L.	..	1 0.03	..
+	+	..	T.L.	..	11 1.14	..
+	+	..	T.L.	..	4 0.3	..
+	+	..	T.L.	..	12 1.26	..
+	+	..	T.L.	..	7 0.72	..
+	+	..	T.L.	..	10 1.2	..

L. stands for lateral-spined ova of *Bilharzia mansoni*.
T. stands for the terminal-spined ova of *Bilharzia haematobia*.

At first ova could be found in the majority of samples. These ova were active and hatched rapidly. After a couple of injections degenerate ova were discovered and the healthy looking ova took longer to hatch. Later on degenerate ova only were seen in small numbers and finally they disappeared entirely. In the table of the results of treatment the total disappearance of all ova, degenerate or otherwise, is implied in the third column. Injections were still continued till the results determined by cystoscopic examination were favourable. If active granules were discovered, fresh injections were given. Different patients, it is seen, took widely different quantities of tartar emetic before the desired result was secured. The amounts required, moreover, did not correspond with the number of ova found by microscopical examination.

Clinical examination in two patients while in hospital revealed tenderness in the appendical region. Appendicectomy was performed. On histological examination it was seen that the wall of the appendix contained numerous ova. In all these patients, there-

being killed discharged ova in greater numbers than normally. The other explanation is that there chanced to be a female parasite in the peripheral circulation of the finger. With continuance of the treatment, ova ceased to be found.

The eosinophilic counts are interesting. As they may have several interpretations they are set forth at length. It is seen first of all that a high eosinophil count is characteristic of the infection. In consequence, it was of value in confirming the diagnosis in those patients whose excreta did not contain ova at the time of admission to hospital. The percentage of eosinophile cells to total leucocytes are:

TABLE II.

Number of Eosinophile Cells per 100 Leucocytes.			
Before Treatment.	During Course of Treatment.		At Completion of Treatment.
18	..	12, 17, 69, 67, 68, 51	.. 53, 63, 43
9	..	7, 9, 13, 16, 27	.. —
8	..	8, 10, 8, 11	.. 7
22	..	10, 14, 17	.. 8, 6
10	..	13, 16	.. —
8	..	12, 10, 21	.. 18

4	..	11, 13, 32, 50	..	37
6	..	9, 15, 9, 26	..	6
8	..	13, 9	..	—
13	..	11, 12	..	—
4	..	7	..	5
15	..	37, 76, 60, 31	..	14
20	..	18, 30, 46	..	32
16	..	16	..	—
11	..	7, 10	..	7
10	..	22, 18	..	9
21	..	16, 17	..	16
3	..	5	..	—
24	..	21, 18, 17	..	18
8	..	2	..	—
22	..	36	..	10
4	..	6	..	10
8	..	10	..	—
6	..	11	..	—
—	..	5, 10	..	—
—	..	6	..	—
8	..	8, 14	..	16
16	..	15, 17	..	21
14	..	12	..	—
17	..	—	..	—

For permission to publish these notes, we are indebted to Lieutenant-Colonel H. A. Embling, V.D., the Commanding Officer, No. 11 Australian General Hospital. Dr. Mervyn Holmes, D.S.O., of the Federal Quarantine Department, took great pains to collect the patients, who had passed out of the control of the Defence Department and were scattered throughout Victoria. Our best thanks are due to Warrant Officer H. Weir, who carried out most carefully the great number of routine examinations in the laboratory.

List of References.

- (1) Christopherson, J. B.: *Lancet*, 1918, II., p. 325.
- (2) Lawton, F. B.: "Bilharziosis," Part II., "Early Clinical Features of the Disease," Published by the Commonwealth of Australia, Department of Defence, 1917.
- (3) Fairley, N. H.: "Observations on the Clinical Appearance of Bilharziasis," *Quart. Journal Med.*, July, 1919.
- (4) Fairley, N. H.: "The Discovery of a Specific Complement Fixation Test for Bilharziasis and Its Practical Application to Clinical Medicine," *Journal Royal Army Medical Corps*, 1919, XXXII., page 494.

RADIOLOGICAL NOTE.

By K. Stuart Cross, M.Sc., M.D.,
Radiologist, No. 11 Australian General Hospital.

A series of twenty-one cases of bilharziosis was examined radiologically, in collaboration with Drs. Summons and Irving. Postero-anterior plates of the chest were taken in every case. Of the twenty-one patients, eleven had lung symptoms, usually a chronic cough, while ten had not.

Of the first group, all showed a generalized thickening and extension towards the periphery of the finer branches of the broncho-vascular tree, representing a generalized bronchitis. This change was marked in all the patients except three, in whom it was only moderate in degree.

In addition to this appearance, several of the patients exhibited that of focal involvement in one or both of two forms: (a) as groups of soft, discrete, spherical nodules of a more or less uniform diameter of about a millimetre, usually situated in one or other lower lobe, lateral to the main branches of the basal divisions of the broncho-vascular tree; (b) as scattered, small, spherical or irregular linear or hook-

shaped calcified foci, situated mainly in the upper lobes.

The former focal appearance was seen in eight patients of the first group, the latter type in four.

Both kinds of foci were occasionally seen in large numbers, localized to a certain, sometimes well-defined portion of the lung field.

In six of the ten cases without prominent lung symptoms, plates were obtained of practically normal chests. In the skiagrams of the remaining four, one showed a group of nodules of the type (a), mentioned above, but no evidence of any bronchial, or other involvement. A second showed some heavy, irregular thickening of the proximal portions of the main upper lobe branches of a pneumoconiosis type, but again with the smaller branches clear; while the remaining two presented symmetrical pathological appearances of the upper lobe, resembling those of early tubercular infection. One of these patients was of an anæmic, debilitated appearance, whilst the general condition of the others was apparently good.

It will be seen that there was a close agreement between the clinical symptoms of chronic bronchitis and the radiological appearance of the lungs.

With regard to the presence of specific involvement of the lung tissue by the parasite, it would seem that the focal appearance (b) was probably and the focal appearance (a) possibly a result of this involvement.

CYSTOSCOPIC APPEARANCES IN BILHARZIOSIS.

By C. Gordon Shaw, D.S.O., M.D., B.S., F.R.C.S.,
Surgeon to Out-Patients, St. Vincent's Hospital, Melbourne.

During the last eight months some 23 patients infected with the *Schistosomum hæmatobium* have been examined by me by means of the cystoscope. In all of them the diagnosis has been verified by the presence of ova in the urine. In the majority infection occurred during 1916, and in no case did it occur prior to this date, so that the lesions observed in the bladder are of short duration when compared with the lesions found in the inhabitants of Egypt and Palestine.

The patients were admitted for treatment by tartar emetic under the care of Dr. Walter Summons at No. 11 Australian General Hospital. The details of treatment are set forth above.

The cystoscopic appearances are varied, but very characteristic. They may be described under four heads:—

- (i.) Granules.
- (ii.) Areas of fibrosis.
- (iii.) Granulation tissue.
- (iv.) Polypi and infiltrations.

(i.) *Granules*.—The granules seen are of two varieties. The recent granules are golden yellow in colour, clear, vesicular looking bodies which project from the mucous membrane. They are grouped together and are usually very numerous. Each granule may be surrounded by a tiny zone of hyperæmia.

In some cases they resemble tubercles in tuberculous infection, but are larger and more numerous. If of recent development, they are found projecting from almost normal mucous membrane.

These granules apparently consist of small vesicles

containing the ova which are being extruded through the mucous membrane. They burst and are now seen as tiny pin-head ulcers surrounded by a small zone of hyperæmia, or, as in two cases, as numerous small submucous hæmorrhages scattered over the greater part of the bladder.

Another type of granule is very commonly found. These are smaller than those described above, are creamy white in colour and are not unlike miliaria lesions in the skin. These apparently consist either of dead ova, which have become encapsuled, or are the remains of the active yellow granules after rupture. They are extremely numerous and may cover extensive areas of the bladder mucous membrane, even up to one half its extent.

(ii.) *Areas of Fibrosis.*—The atrophic granules are generally found situated in extensive areas of mucous membrane which has become fibrosed, atrophic and avascular, and which has on cystoscopic examination a pearly white appearance. On these fibrosed areas few, if any, blood vessels are seen; in one case there was a deposit of crystalline salts on the surface.

(iii.) *Granulation tissue.*—Granulation tissue is most often found situated low down on the lateral walls and on the base of the bladder; not infrequently it invades the trigone and the region of the ureteric orifices. It is low lying, generally sparse and pale, but may be quite extensive. Scattered through it are the granules above described, most frequently the atrophic variety, but sometimes the active granules are seen also.

(iv.) *Infiltration.*—Infiltration of the mucous and submucous coats of the bladder occurs and manifests itself either as an ill-defined swelling of the mucous membrane most often situated about the ureteric orifices or as a localized polypoid outgrowth.

The surface of these outgrowths is covered with granulation tissue which may be so marked as to form a papillomatous mass.

Involvement of Ureters.—The ureters were found to be involved in 15 cases—both ureteric orifices in seven and only one orifice in eight cases. Most often the ureters were found in the centre of an infiltrated area covered with granulation tissue. Sometimes the orifice was situated actually on the surface of a polypoid outgrowth. In eight cases the orifice was widely patent and there was evidence of ureteritis. In several cases the orifice was involved by the scarring and contraction of the new fibrous tissue formed and was obviously constricted. In one case there was prolapse of the ureter, apparently due to such a constriction. This manifested itself as a large globular, semi-transparent swelling at the site of the ureteric orifice.

Results of Treatment.

The effect of treatment on the bladder appearances was as follows: The changes in the cystoscopic appearances after treatment were very definite. In eleven patients in whom examinations made before treatment disclosed the presence of what I have described as active nodules, it was seen by examinations after treatment that they had either completely disappeared or were replaced by inactive atrophic granules. In two cases in which this was the main lesion, the bladder was restored practically to normal.

In no case did active granules persist after the course of treatment. I would point out that this change occurred at the same time as the disappearance of active ova from the urine.

Further, it was seen that the polypi diminished appreciably in size, and in five cases completely disappeared. The infiltration also diminished and signs of local subacute cystitis subsided.

Perhaps the most surprising improvement took place in the extensive areas of bladder which had undergone fibrosis and atrophy of the mucous membrane with more or less complete obliteration of vessels. These areas in many cases lost their dull dead-white appearance and became pink; here and there definite vessels could be seen. The mucous membrane became definitely more healthy.

Comparatively little effect on the granulation tissues was noted. In a few instances small patches of it disappeared and in others it became sparse and not so exuberant, but the improvement was not so marked nor so definite in this respect as that which took place in the other lesions.

It could not be expected that structural changes in the bladder and ureter would resolve under treatment, though even here a certain amount of improvement did occur, but there is no doubt that the active and recent pathological changes, such as the yellow nodules, the infiltrations and the polypi, did respond to a very striking extent.

A CLINICAL DEMONSTRATION OF CASES.¹

By D. M. McWhae, C.M.G., C.B.E., M.D. (Melb.),
M.R.C.P. (Lond.),
Perth.

Local Tetanus.

This case exemplifies two type of tetanus—"local tetanus" and "delayed tetanus"—which differ from the usual generalized tetanus form with trismus and which have resulted from the use of antitetanic serum during the war.

This soldier, aged 37, was admitted on June 24, 1920, with stiffness of the left shoulder and pains in the back of the neck and shoulders. The pain and stiffness came on 14 days prior to admission, together with profuse night sweats and sleeplessness due to the pain. He was emotional and looked ill. He had received a gun shot wound of the left shoulder on November 20, 1917, and had been given three injections of antitetanic serum. A few weeks after being wounded, while at Harefield, he had an attack of stiffness of the left shoulder which passed off in a week or two. In March, 1918, he had a similar attack of stiffness in the left shoulder. These were attacks of local tetanus.

In the present attack, however, symptoms characteristic of the generalized type of tetanus occurred. The muscles of the lower jaw became stiff, the adductor spasm of the left shoulder increased, the complexus group of muscles at the back of the neck and the sterno-mastoids became very rigid and on June 9 he had four or five tetanic contractures of the back muscles which lifted him off the bed. The left facial nerve was slightly paralysed.

¹ Read at a Meeting of the Western Australian Branch of the British Medical Association on July 21, 1920.

He was given 39,000 units of antitetanic serum over a period of five days and has recovered, although the spasm of the left shoulder has not quite disappeared yet.

Bilharziosis.

In 1916 this soldier bathed frequently in the fresh water canal in Egypt and thus acquired the infection, the mode of entry of the bilharzia being through the skin.

There was an incubation period of about three months. He was then seized with pains in his head, back and suprapubic region and an urticarial rash appeared. These toxæmic symptoms disappeared and the final stage of localized bilharziosis occurred in which blood appeared in the urine at the end of micturition. Since then at monthly intervals he has had similar attacks of hæmaturia, each attack lasting a few days. Ova have been repeatedly found in his urine, but they have not been detected during the last attack, although, when he was examined by Dr. Hadley with the cystoscope, several small black hæmorrhagic spots in the bladder mucosa near the left ureter were seen.

There are more than 20 cases of bilharziosis in Western Australia. It is said that 60% of the fellaheen in Egypt are infected with this disease. The terminal-spined ova of *Bilharzia hæmatobia* are deposited in the bladder walls and escape in the urine while the lateral-spined ova of *Bilharzia mansoni* lie in the walls of the rectum and are found in the feces.

I am exhibiting this patient firstly, because, as Dr. Nelson has shown, bilharziosis is liable to spread to the civilian community in this State and secondly because all cases are being collected for treatment with tartar emetic.

A solution of tartar emetic 0.03 gramme in 10 cubic centimetres of normal saline solution is used for intravenous injections which are given every second day. At the first injection 10 cubic centimetres are used, at the second 20, at the third 30 and at the fourth 40; after this injections of 40 cubic centimetres are given. The method of treatment is practically on trial, but so far the results of the treatment as carried out in Egypt and Melbourne have been good, the ova rapidly degenerating and disappearing from the urine.

Polyneuritic Psychosis or Alcoholic Neuritis.

On April 13, 1920, this soldier, aged 42, was admitted to hospital. He had had difficulty in walking and an unsteady gait for some weeks previously. His gait is unsteady, but it is "steppage" and not tabetic. His knee jerks and ankle jerks are absent. His pupils react to light and accommodation and there is marked tenderness on squeezing the calves. The case is therefore not tabes but is alcoholic neuritis. He shows Korsakow's syndrome. He does not know what this place is, how long he has been here nor what the date is. He is disorientated as regards place and time. Further, associated with this profound loss of memory he has pseudo-reminiscences, i.e., in order to account for the gaps in his experience of time, he tells every day of imaginary walks which he has taken outside the hospital. He has been here

three months and has not been out of the hospital once.

He will probably recover in 6-12 months, with a certain amount of mental enfeeblement.

Hysterical Paraplegia.

This soldier after an injection of morphine in August, 1918, became completely paralysed in both legs. He was bedridden until three months ago. Since then he has learnt to walk, but his gait is very spastic still and a spastic tremor is present occasionally when he puts his foot to the ground. His knee jerks and ankle jerks are very exaggerated, pseudo-ankle clonus is present and on stroking the sole of the foot, there is a dorsal response of the great toe.

There is probably no organic disease present, however, the dorsal extension of the great toe being due to spasm of the anterior tibial group of muscles, which occurs whenever the legs become spastic. The condition is improving markedly. He can lift both legs off the ground, but further re-education in relaxation is required before he will be able to walk freely.

Functional Paraplegia.

This case developed in the ward 11 days ago without any apparent reason. The patient walks with a stiff "scissor gait" and his knee and ankle jerks are markedly exaggerated, but this exaggeration is partly done voluntarily by the patient. His sensation is normal and the plantar reflexes are flexor. The vertebral column is slightly stiff, but there is no deformity and the skiagram has revealed no tubercular disease of the spine.

I believe this case to be due to simulation of the case just shown, but whether this simulation is conscious or unconscious, I am not prepared to say, although I incline to the former view. However, the patient will be treated by psycho-therapy and should rapidly recover.

Functional Stammering.

Since 1916, i.e., for four years, this soldier had barked and stammered to such a degree that his speech was quite unintelligible and he is drawing a full pension. Two or three weeks ago he was sent to me by the President of the Permanent Medical Relief Board. He was taught in a few lessons to breathe easily and to talk quietly with expiration and he now speaks very well. With this improvement in his speech there has been a marked improvement in his general health and his previously emotional condition has quite disappeared.

Re-Education of the Mental Faculties in a Case of Organic Hemiplegia.

Four years ago this soldier, aged 23, dived into shallow water and has been paralysed on the right side ever since as a result of a cerebral hæmorrhage. I am not showing the man on account of the paralysis, but on account of the good results which have followed patient re-education of his mental functions which was commenced four months ago. Prior to this for four years the patient's mind had been blank. Intelligence and reasoning powers were non-existent. He could say "bow-wow," "beer" and "pretty boy,

I saw you," but nothing else. He understood practically nothing of what was said to him. A fellow patient has taught him. Now he speaks well and understands all that is said to him. He is intelligent, happy, can do simple sums and can play easy card games. He is still somewhat confused and cannot read, as his visual word centre is recovering very slowly, but all his mental faculties are steadily improving.

Diabetes.

In November, 1915, the left toe of this soldier became gangrenous and was amputated. In 1916 the tip of the right forefinger became gangrenous. In 1917 the tip of the left forefinger became gangrenous and in 1918 the small toe of the right foot became gangrenous also and was amputated. His urine is loaded with sugar. His systolic blood pressure is 250 mm. of mercury, so that the not uncommon combination of diabetes and chronic nephritis exists in which condition gangrene is specially liable to occur.

The next patient also has diabetes whose urine remains sugar-free on a diet consisting of carbo-hydrate 66.5 grammes, fat 223.5 grammes and protein 57.5 grammes per day (2,567 calories). He was given the Allen treatment, *viz.*, a fat-free diet for two days, followed by starvation until the urine became sugar free. Then the carbo-hydrate was increased by 5 grammes every second day until sugar returned to the urine. The amount of carbohydrate in the diet was then fixed at two-thirds of this amount. The protein was fixed at 1 gramme per kilogram of the body weight. Fat was added to the diet until the necessary amount of energy had been obtained.

Exophthalmic Goitre.

In 1916 the left eye of this soldier began to bulge. His pulse-rate is 120 and there is a slight tremor. His thyroid gland is hard, but not enlarged.

The points of interest in this case are: (i.) the preponderance of exophthalmos in the right eye, (ii.) ptosis is present in the right eye only, (iii.) limitation of movement of both eyes upwards and inwards.

These signs suggested orbital tumour with pressure on the third nerve, but X-ray examination has shown that no tumour exists.

Reviews.

THE DENTIST AND PREVENTIVE MEDICINE.

During the development of the science of preventive medicine and public health it has been interesting to see how at each stage some portion of the work, after having been developed and organized by the medical profession, has been claimed as the particular field of some other branch of scientific work.

After the best method of sewage disposal had been determined by the medical profession, this became the special field of various boards of works and other authorities. Instances of this kind might be multiplied. An indication is given of further extension of this same movement towards the point at which the dental profession will assume the active management of all matters of oral hygiene. It is right that this should be so, but it has taken a long time for this point to be reached.

The issue of a book on "Hygiene, Dental and General,"

¹ Hygiene, Dental and General, by Clair Elsmere Turner, Assistant Professor of Biology and Public Health, Massachusetts Institute of Technology, 1920. St. Louis: C. V. Mosby Company; Demy 8vo., pp. 400, illustrated. Price, \$4.00.

by C. E. Turner, is an introduction of this development. The declared purpose of this book is unusually ambitious. The author states in his preface: "Many people consult a dentist who do not visit a physician and to most of these he is a doctor. He is expected to know not only the facts relating to infection, but also the rules for health. Many a practising dentist can testify that he is questioned on every health problem from diet to municipal sanitation."

The author does not state to what extent he intends that the book shall satisfy the very extensive scope indicated by this passage. If the book is to be taken as giving completely satisfying information and enabling any practising dentist to answer accurately and with authority any question on personal health or health problems, then it is obvious that in 387 pages such a result could not possibly be achieved.

If, on the other hand, the intention of the author was to give a general survey of the field of personal and public health, indicating the principal points only and grouping these in order of their importance, then the work has been excellently done. There are not many books in existence which will compare favourably with the present volume as a crisp and succinct survey of the main principles of public health.

The book is written in a way which makes it entirely readable for the general intelligent public, as well as for the dental profession for which it is primarily intended. The author has gone to a great deal of trouble to master his subject, as indicated, for example, by the fact that the classical Broad Street well epidemic of cholera in London in 1854 is placed side by side with the discussion on influenza in the American Medical Congress at New Orleans in 1919, each being discussed with an accurate appreciation of the relative importance of each point dealt with.

A refreshing appreciation of public health matters is indicated by the author's crisp emphasis on "the three great epidemics," which he defines as syphilis, tuberculosis and common cold.

The author shows the faculty of bringing into prominence in a sharp and attractive way important points in connexion with public health problems; for example, speaking of America, he says: "Ten million of the people now living in this country will die of tuberculosis and yet it is a preventable disease"—a statement which would arrest the attention of the most casual readers.

The chapter on the new science of disease prevention is particularly well written and deals with modern opinions on preventive medicine in an enlightened and appreciative way. A new grouping of the subject adopted by the author is the division of the science into preventive medicine, preventive sanitation and preventive hygiene.

That the author has attempted too much is evident from the fact that he endeavours to discuss the whole field of industrial hygiene in 22 pages and the whole question of disinfection and disinfectants in nine pages. That he has, however, produced a very readable and accurate brief survey of the field of preventive medicine is apparent to any one who reads the volume; that it is possible to have such a volume published for the dental profession is in itself an encouraging evidence of the increasing interest being taken in the subject in circles beyond the medical profession.

A TEXT-BOOK OF MEDICINE BY MANY AUTHORS.

The well-known firm, Masson et Cie, of Paris, has forwarded us the first volume of a monumental work, a text-book covering the whole field of medicine, produced under the editorship of Professor G. H. Roget, Professor F. Vidal and Professor P. J. Telsier and written by no less than 129 of the leading teachers in the medical schools of France. The Secretary of the editorial committee is Marcel Garnier.

"Nouveau Traité de Médecine" will comprise 21 volumes containing from 400 to 500 pages each. The work is profusely illustrated in black and white and in colours. Each chapter is handled by the most eminent authority on the particular subject in France and it is obvious that the editorial committee and the publishers have given each author almost *carte blanche* in regard to space. A review of each volume will be published in future issues of the *Journal*.

The Medical Journal of Australia.

SATURDAY, JANUARY 29, 1921.

The Prevention of Tropical Disease.

A few days ago the Prime Minister discussed with Dr. V. G. Heiser, the Director for the East of the International Health Board of the Rockefeller Foundation, and with Dr. W. A. Sawyer, Director of the Australian Hookworm Campaign, the proposal that there should be established a Federal Ministry of Health, into whose purview should fall the prevention of tropical and other forms of infective diseases. The Prime Minister is apparently desirous of setting up an efficient machine designed to diminish disease, to lessen incapacitating ill health and to promote the well-being of the community by creating a healthy environment. Unfortunately, the Federal Government has not a free hand to undertake this work. So-called public health administration belongs to the State Governments. In the six divisions of the Commonwealth there are as many health authorities working under separate Acts of Parliament and adopting six wholly different methods of regarding the problems of the prevention of disease. The legislative basis of this task is not the most important item. Every modern hygienist recognizes that something more is needed than power to compel medical practitioners to notify infections, than the employment of an army of sanitary inspectors, whose duties are concerned with the disposal of refuse, garbage and night soil and similar matters, than the accumulation of information of varying utility in an elaborately equipped office. A great deal can be accomplished under the present conditions of scientific knowledge by a proper appreciation of the obligations of the public health authority and by the provision of means to discharge those obligations. Hitherto Australia has not been receiving her due in this regard. The Prime Minister has no mandate to co-ordinate the health policy in each part of the Commonwealth. And yet one of the most important preliminaries to a successful prevention of disease is the creation of uniform machinery, tested and found to

be the best, for attacking the various problems. The sovereign rights of the States are being jealously guarded at the expense of the welfare of the community. Since the transference of the control to the Federal Government is at present unattainable, the Prime Minister is constrained to seek the next best expedient. The Director of Quarantine has been instructed to submit a scheme for the establishment of a health bureau which should have the complete control of the measures for the protection of the health of the people in New Guinea and in the Pacific territories of the Commonwealth and which should endeavour to render assistance to the State Public Health Departments. The ultimate objective of the bureau would, no doubt, be the co-ordination of the six existing departments and the gradual moulding of the policy until uniformity is attained. The Prime Minister stated that the Federal Government was spending the sum of £4,000 each year on its tropical health services. Capitalized, £4,000 per annum represents, let us say, £55,000. The Prime Minister expects to protect the whole of the Australian community against the devastating effects of tropical scourges for this bagatelle. The loss of wages resulting from attacks of malaria, filariasis, ancylostomiasis, relapsing fever and the other common tropical infections in the Pacific islands and in New Guinea must exceed the capital sum named every year. Much more must be expended for the application of the known methods of prevention, while parsimony in the matter of research will inevitably lead to a large financial loss to the Commonwealth. It will be remembered that a short time ago the London School of Tropical Medicine commissioned Dr. F. W. O'Connor to undertake an investigation into the nature, incidence and treatment of filariasis in the Gilbert and Ellice Islands. This research has been extended to Samoa and to other Pacific islands. In a short time some highly interesting results will be published. There is still much to be learned concerning the endemic and epidemic tropical diseases of the Pacific and of the tropical areas of Australia. The field is wide, the opportunities are immense, the significance of the issues is immeasurable. Does the Prime Minister conceive that these important researches, which may mean the saving of thousands of pounds to the Commonwealth, can be accomplished

for a fraction of the £4,000 expended on tropical health services? But a couple of months ago, when His Royal Highness, the Duke of York, was opening the new London School of Tropical Medicine in Endsleigh Gardens, Euston, London, he said that he could not too strongly commend the work that was being carried out in the interests of those who had helped to build up the great tropical dependencies of the Empire. "The School of Tropical Medicine holds," he said, "a watching brief for the health of the outposts of our wide Empire and it is here that schemes may be initiated such as have made what was once known as the white man's grave a land where to-day work and effort may be advanced without the toll of death and suffering which formerly attended life in those regions. I venture to hope that still further funds may be forthcoming to carry on this great work and especially to advance research." The new institution has been built out of funds provided by the British Red Cross Society, the Order of Saint John and a generous subscribing public. Australia is in a singularly favourable position at present in regard to deadly tropical diseases. With hookworm nearly eradicated, filariasis limited to a relatively small area, malaria but a minor problem and few other serious infective processes peculiar to tropical regions, Australia may congratulate herself to-day. But the nests of infections and infestations abound in the seas which wash her coasts. The trade routes bring Australia daily into close touch with veritable hotbeds of tropical infection. Who knows whether the next few years may not bring some horrible experience to our midst? Would it not be economical to build up strong lines of defence at once, instead of awaiting the invasion of the enemy and then engaging him in a fierce battle? The Prime Minister should seek to economize in some other direction. In the matter of the health of Australians he must be prepared to spend freely. As fast as reasonably salaried positions in research can be established, Australia will find competent scientists to fill them.

THE SCIENTIFIC WORK OF THE BRANCHES.

During recent times the Branches of the British Medical Association in Australia have awakened to the fact that full use was not being made of the op-

portunities offered in the chief cities of the Commonwealth to further medical knowledge. The members have grown accustomed to a monthly meeting or two at which papers are read and patients presented. At times the communications have been of scientific importance, but usually the popular meetings are those at which some method of treatment is discussed in a manner more calculated to improve the members' earning ability than their knowledge. With the return of those who served abroad, during the war period, has come a more insistent demand for better things. There are indications of a greater interest in unsolved problems in ætiology, pathology and clinical manifestations. More meetings are being held in the great hospitals, where diagnostic methods, the signs and symptoms of pathological processes and the changes encountered in the affected organs and tissues in these processes can be demonstrated. Medical practitioners can be induced to apply themselves to scientific problems if opportunities are given them to become familiar with the technicalities of the laboratory and of the modern clinic. The student of a generation ago rarely took note of the important points of application of medical chemistry and of medical physics. To-day he is required to have a personal acquaintance with the daily programme of the biochemist and modern physiologist. There is no essential difficulty in the moulding of the tastes of members of the Branches of the British Medical Association. With judgement and careful selection, the meetings can be converted into important post-graduate classes. The papers should be chosen with deliberate care and equal attention should be given to the selection of those who take the principal parts in the discussions. We would suggest that the papers might be submitted to this journal in advance of the meeting, so that copies be distributed to those selected as openers of the discussion to read at leisure. In addition, free use might be made of demonstration, for there is no instrument so powerful in awakening interest in an intricate manipulation or complex scientific problem than that of a planned experiment. Overcrowded programmes should be avoided, not only when papers are read, but also when patients are presented. In the past many very valuable clinical meetings have been spoiled by the excessive number of patients exhibited. We would

urge the special committees entrusted with the preparation of the meetings to expend an increasing amount of time and attention to the details of the programmes. The more thoroughly this preparatory work is conducted, the less danger there will be of new societies arising. The Branches of the British Medical Association should endeavour to cater for all their members. If any important branch of the medical profession is neglected, the leaders of that branch will naturally seek the remedy outside. For the sake of cohesion, to prevent a weakening of the one great medical organization and to give inexperienced members an opportunity of learning from experts in the particular branches of the profession, the scientific meetings should be held under the auspices of the British Medical Association and be open to all its members. It has been argued that senior practitioners would be loath to discuss without restraint their failures and mistakes before a crowd of juniors. The practitioner who is afraid to confess to his failures and mistakes, is unworthy of the high esteem of his colleagues. It is senseless and selfish for a handful of men to draw a cordon around themselves and wrap themselves about with a gauzy conceit. We shall hear little of the break-away societies if the Branches of the British Medical Association do their work well.

INFLUENZA BACILLI IN INFLUENZA.

During and since the pandemic of influenza of 1918-1919 a great deal of work has been carried out in the endeavour to determine the true aetiology of the disease. Unfortunately, much of this work was influenced by the fact that the public was in a state of scare and pathologists in many parts of the world revealed a tendency to hurry over the work and to announce to the public through the agency of the daily press the results of ill-conceived and hastily-conducted experiments. Scientific work does not belong to the limelight and the real scientist refuses to imperil his investigations by racing against time. Cautious and well-considered work takes time to complete and if the worker is endowed with a scientific spirit, he will care nothing for priority; his one aim will be to ascertain the truth. In the feverish struggle to earn cheap popularity, many of the rapid-working bacteriologists adopted a plan which may appeal to the layman, but which should always be condemned by the scientist. They conceived a hypothesis and set out to prove it, instead of ascertaining the facts and then trying to find out what they mean. The result of this reversal of safe procedure was the elaboration of the filter-passing aetiology of influenza,

a hypothesis which has failed on each occasion when an alleged filter-passing micro-organism was presented as the *causa morbis*. The problem of the aetiology of influenza is a very difficult one and demands much ingenuity and patient work to solve. It is regrettable that so much energy was wasted by competent workers in the undignified and unscientific hustle to get in first.

We have now the records of some investigations which appear to bring us nearer to the solution of the problem, if indeed they do not actually disclose the real causation of the influenzal infection. In the continuation of their valuable researches on experimental pneumonia, Drs. Francis G. Blake and Russell L. Cecil sought to ascertain the effects of *Bacillus influenzae* on monkeys when inoculated into the mucous membranes of the upper portions of the respiratory tract and when introduced directly into the trachea.¹ It will be remembered that the weakest link in the chain of evidence supporting Pfeiffer's claim that influenza was caused by *Bacillus influenzae* was that neither he nor any other bacteriologist had been able to reproduce the disease in laboratory animals by inoculation with this organism. This fact, together with the recognized lack of any pathognomonic sign or symptom of influenza, led Drs. Blake and Cecil to devote much care in the selection of a strain of bacilli for their experiments. They employed the *Bacilli influenzae* obtained in pure culture from empyema pus withdrawn from a child who had been suffering from undoubted influenzal pneumonia. The organism was identified as Pfeiffer's bacillus by its small size, its Gram-positive staining qualities, the facts that it was non-motile, did not bear spores and did not dissolve blood corpuscles. It grew readily in characteristic colonies on a medium containing haemoglobin at 37° C., but did not grow in the absence of blood pigment. In the last place, it produced indol. After it had been cultivated on artificial media for some weeks, it was found to be practically avirulent to white mice. They therefore determined to adopt the expedient of animal passage for the purpose of increasing its virulence. The bacilli were inoculated successively into eleven mice and subsequently they were passed through a series of thirteen monkeys. The result of these preliminary procedures was to raise the virulence to a point at which it was regarded as considerable. Expressed in the usual manner, 1 c.cm. of a 16-hour broth culture of the bacilli from the peritoneal exudate of the thirteenth monkey killed a white mouse in five hours, while 0.1 c.cm. killed in 48 hours. It was found that the augmented virulence was rapidly lost on artificial culture and consequently the further experiments were conducted with the strain at this stage. The tests were divided into two series. In the first, twelve monkeys were inoculated in the mucous membrane of the nose or nose and mouth. The object of this site of entry was to ascertain whether or not the catarrhal process of the upper regions of the respiratory tract seen in influenza was caused by Pfeiffer's bacillus. The result was an acute respiratory disease in all twelve monkeys. The infection appeared to be self-limiting and to last in the acute stage for from

¹ The Journal of Experimental Medicine, December 1, 1920.

three to five days. The first sign was a rhinitis; the secretion, at first mucoid, soon became muco-purulent. In some instances *Bacilli influenzae* were recovered in large numbers from the discharge. Later a tracheo-bronchitis appeared. There was little fever. In nearly all the animals the temperature fell on the second or third day and rose again when the tracheo-bronchitis developed. At times there was a definite leucopenia, while in other instances the number of leucocytes in the blood did not differ from the normal. In five monkeys the infection was complicated by an acute purulent sinusitis. In two other animals a broncho-pneumonia resulted.

In the second series the infection was achieved by means of intra-tracheal inoculation. Ten monkeys were used and in nine an infection of varying degree resulted. The symptoms were similar to those of the animals in the first series, save that the focal effect was more marked in the trachea and bronchi. In one case a general septicæmia, with pericarditis and pneumonia, was noted. Drs. Blake and Cecil hold the opinion that, with the exception of this one monkey, all the animals would have recovered. A close study of the pathological lesions was needed and consequently nineteen of the twenty-two were killed.

The pathology of the infection as it affected the mucous membranes and air passages was studied with meticulous care. The mucous membranes were swollen and hyperæmic; the sub-mucosa was infiltrated with leucocytes, the epithelial cells were in a state of desquamation and there was a muco-purulent exudation. Similar changes were found in the accessory sinuses. In the lungs affected with broncho-pneumonic changes engorgement and œdema were present, though less extensive than the engorgement and œdema seen in human influenzal broncho-pneumonia. There was a definite purulent bronchiolitis, with scattered foci of peri-bronchial consolidation. In the last place, there were both emphysema and bronchiectasis of mild degree. Photo-micrographic pictures of the pulmonary lesions reveal extraordinary similarity to those in human infections. A constant find was the enlargement of the thymus gland.

Drs. Blake and Cecil deduce from their observations that the *Bacillus influenzae* of Pfeiffer can give rise to an acute infection in normal monkeys indistinguishable from human influenza. They are not prepared to claim that the evidence of their experiments suffices to prove that this organism is the bacterial cause of influenza in man; they merely offer it as contributory evidence. Influenza in man is so difficult to define, either from its clinical manifestations or from its histological characters, that it is impossible to identify it with the disease produced experimentally in their monkeys. The complicating pneumonia, however, is more easily distinguished from other forms of lung infections. That there should be an unmistakable similarity in the clinical signs and symptoms of the affection and an almost complete coincidence of the qualities of the chief complication is offered as strong evidence in favour of influenza bacilli being the causal organism of the human infection. It must be remembered that the

degree of virulence of the bacilli used in the experiments was not high. This undoubtedly accounts for the milder nature of the initial infection and of the complicating pulmonary involvement. From a theoretical consideration of the facts, as presented by Dr. Francis G. Blake and Dr. Russell L. Cecil, we would infer that Pfeiffer's claim has been substantiated, provided that the experimental data can be confirmed.

THE SECOND COMMONWEALTH CENSUS.

The majority of people have little sympathy with those whose duty it is to collect statistical data. The questionnaire is often regarded as an irksome document of an inquisitorial nature and the information sought is given reluctantly and, we fear, without due regard to accuracy. The Commonwealth Statistician stands before the immense task of taking the Census on the fourth day of April, 1921. He has already completed the greater part of the preliminary work. This includes the determination of the method of delivering the slips and of collecting them after they have been filled in. The machinery required for this formidable task is apparently ample and conveniently devised. The nature of the information to be sought has been determined and the wording of each question has been drafted with great care. It has been determined that in each household there shall be one so-called dwelling slip, in which the head of the household will be required to fill in certain details concerning the building and its human contents. In addition, there will be a separate slip for each person present in the house on the night from April 3 to April 4, 1921, or returned to the house on April 4, without having been counted elsewhere. The only persons who have access to the information entered on the slips are the head of the household and the officials of the Census. Heavy penalties are provided for a breach of confidence on the part of any of these persons.

The Commonwealth Statistician has issued a brochure in which he sets forth some of the objects of taking a census and the reasons for adopting the special forms and methods referred to above. It is unnecessary to argue the points connected with the utility of the collection of information concerning the population of a country in a medical journal. Apart from the fact that many matters of government are based on population and the safety of the nation depends to a large extent on a correct tally of its citizens, all measures of preventive medicine must of necessity be profoundly influenced by such statistical information as death rates, birth rates, disease incidence rates, incidence of blindness, of insanity and so forth. These computations have for their basis a correct enumeration of the people and a proper classification of individuals according to natality, marriage, age and occupation. Medical practitioners have facilities for inducing their patients to take the census, the decennial stock-taking of the Commonwealth, in a serious spirit. They should use their influence to secure accuracy and intelligence on the part of the general community in the simple task of replying to the questions asked by the Commonwealth

Statistician. The value and interest of the report on the Census will be directly proportional to the reliability of the replies.

REMOVAL OF ADENOIDS IN INFANCY.

Post-nasal adenoid vegetations are extremely common causes of ill-health in infancy and early childhood all over the world and it is the common belief of medical practitioners in Australia that when they interfere with the general health, they should be removed. But while opinion is almost unanimous on the question of the advisability of operation, there is considerable conflict of ideas as to the period of age at which the operation should be performed. Some strongly advocate surgical interference as soon as it is reasonably certain that the child's health is in jeopardy. Others with equal determination deprecate operation until the child has entered that period of life in which he cuts the first tooth of his permanent dentition. Exponents of the latter belief are in the minority, but they represent, nevertheless, a strong conservative element. Exactly what are the objections advanced against early operation it is not easy to determine. It would appear that the chief objection is that the child is too delicately constituted in early infancy successfully to withstand the trauma of operation and the inconvenience of anaesthesia. Another objection is that lymphoid tissue is apt to grow again in all its previous profusion when removed too early in life. Exception is sometimes taken on a third ground, namely, that adenoid tissue has a protective function against disease and to remove it early in life is to invite the entry of tubercle bacilli beyond the damaged barrier of the post-nasal space. Each of these reasons is supported by a certain amount of truth. They are sufficiently valid to condemn the promiscuous and ill-judged removal of all post-nasal adenoid tissue, but none of them is an adequate argument against removal when the indications of serious disease are grossly apparent. Some rhinologists choose a *via media* and adopt a compromise between the two views. In a clear and interesting article published in these columns a few weeks ago Dr. T. L. Anderson, of Perth, put his views on the question in a concise form. He was of opinion that, "in the absence of ear symptoms, in the absence of any marked deterioration of the general health attributable to the existence of hypertrophied tonsils and adenoids, in the absence of repeated serious attacks of coryza and sore throat, enlarged tonsils and adenoids should not be removed before the child is four years old. . . . Tonsils and adenoids should be removed for symptoms, not because they exist and, if possible, not until the child is six to seven years old." He pointed out that complete removal of adenoids is difficult when the child is under four years and that the tendency of lymphoid tissue to grow again after removal in early childhood leads to frequent recurrence of the disease. On the other hand, Dr. Hunter Tod, of London, writing in a recent issue of the *Practitioner* on the treatment of adenoids in infants under nine months, puts in a vigorous plea for early operation. He points out that congenital post-nasal adenitis is by no means rare

and that it may be a very troublesome affection in the new-born. The babe who is born into the world with post-nasal obstruction, learns after a few days to breathe with the mouth open. As a result, trouble ensues each time he is put to the breast. In order to breathe he is forced to discontinue sucking every few seconds, much to the disappointment and chagrin of his mother. At the same time, he has that noisy type of breathing which goes by the descriptive name of "snuffles." He loses weight and fails to develop, is subject to frequent colds and intermittent pyrexia and is often wrongly stated to be suffering from bronchitis. To deny such a child the only means by which he can obtain rapid relief is to deprive him of good health and handicap his future.

Dr. Tod would do away with all age-limits to operation. He maintains that the disease should be surgically treated before middle-ear suppuration ensues and before the health becomes greatly impaired. During recent years a strong reaction against the conservative form of treatment in infants has set in, but many members of the profession still adhere to the belief that it is unsafe or inadvisable to operate during the first few years of life. While not condemning early operation, Dr. Anderson does not recommend it, except under very strong indications. It is a fair inference from his paper that operation on children of tender age should be avoided in the absence of very serious indications of damage already done. It is difficult to agree with this view. In the first place, a child who has ear symptoms or marked deterioration of his general health, is not as fit a subject for operation as one in whom these complications have not appeared. In the second place, if hypertrophied and diseased adenoid tissue can be felt and is apparently causing ill-health, common sense suggests that it should be removed before serious manifestations arise. To wait too long is to allow grave and perhaps irreparable injury to health to take place. Deafness, middle-ear suppuration, facial and thoracic deformity, asthma, chronic bronchitis and tuberculous adenitis of the neck are complications which should be entirely prevented rather than alleviated. At the same time, the hasty and ill-advised use of a post-nasal curette is to be condemned. The surgeon should be sure of his diagnosis. He should be firmly persuaded that the lymphoid tissue is unhealthy and that it is the cause of the child's symptoms and signs. Once these points are established the way is clear. Operation is indicated whether the child is two weeks, two months or two years of age. The objection that adenoid tissue is difficult to remove in infants and that it tends to recur is not a legitimate argument against operation. The difficulty is not insuperable and even a temporary respite from post-nasal infection may be the means of increasing a child's resistance to disease.

An announcement has been published in the daily press to the effect that General G. Cusaden has intimated to the Department of Defence his desire to be relieved of his office of Director-General, Medical Services. A committee is now sitting for the purpose of advising the Department in regard to the re-organization of the Australian Army Medical Corps. We understand that the conditions of appointment of the Director-General, Medical Services, is being considered by the committee.

Abstracts from Current Medical Literature.

DERMATOLOGY.

(39) Lichen Planus.

Lichen planus is generally recognized as a disease with a definite clinical entity in spite of its multiform manifestations. It is agreed that in sections of the lesions a typical histological picture can be demonstrated. There is still considerable difference of opinion, however, as to the cause of the condition. The earlier writers believed that the disease was a neurotic manifestation, while the majority of dermatologists are now of opinion that it is caused by a microbic agent, though no actual organism has been isolated. Fred M. Jacob (*Arch. Dermatol. and Syphilol.*, November, 1920) inclines to the view that *lichen planus* is an infective process. He has made a study of 179 cases. Of the patients in this series 110 were females and 69 males. The greater number were engaged in indoor occupations, the women as housewives and the men as clerks. Only five were negroes and this race would appear to be comparatively free from the disease. The condition was not common in the third, fourth, fifth and sixth decades of life, the youngest patient being two and the oldest 77 years of age. In 38 cases there was a generalized eruption of typical papules over all parts of the body, including the mouth and penis, but no lesions were found on the scalp. Five other cases in which the lesions were generalized, were of the hypertrophic, as distinguished from the typical papular variety. In the remaining cases the lesions were localized to one part of the body or the patches present were few and scattered. The arms and hands were most frequently affected in typical cases and the lower extremities in the hypertrophic variety. The cases with localized lesions showed some variations in type. In a few the lesions were arranged in linear or moniliform fashion, in others they were circinate and annular, while in two cases they were bullous and confined to the arms, neck and thigh. After a careful study of the series the author is unable to decide between the nervous and infective theories of origin. He draws a parallel, however, between *lichen planus* and syphilis, which is a definite infective process. *Lichen planus* begins as a single primary lesion or as a small patch of lesions. The general eruption is delayed in its appearance. Some patients suffer from toxic symptoms when the rash appears. These characters are comparable to the early manifestations of syphilis. The old hypertrophic lesions are comparable to the late signs of syphilis. In both diseases arsenic and mercury have a powerful influence on the lesions. The histological appearances are of a granulomatous nature and this fact would suggest a microbic rather than a nervous origin. Again, the annular lesions are only explicable, as in syphilis, on the assumption that

the tissues resist the invasion of the causative organism or virus, rapid repair being maintained while the organism continues its peripheral invasion into the tissues. From these considerations Jacob inclines to the view that *lichen planus* is caused by an infective agent, but admits that his views are supported more by speculations than by definite proofs. For treatment of the disease he recommends mercury, arsenic and X-rays. Mercuric chloride was used in acute cases and it was noticed that the mental irritability and distressing pruritus which are characteristic of the disease, often disappeared before any effect on the eruptions was manifest. Protiodide of mercury or *liquor arsenicalis* was used in the subacute cases and in chronic cases the Asiatic pill was the treatment of choice. Arspenamin is described as of little or no value. Localized hypertrophic lesions which resisted medicinal treatment, often disappeared on exposure to X-rays.

(40) Oxygen Inflation of the Peritoneal Cavity.

Röntgen-ray study of the abdominal organs after oxygen inflation of the peritoneal cavity is dealt with by W. H. Stewart and A. Stein in a recent paper (*Amer. Journ. Röntgenol.*, November, 1919). The technique is simple. An ordinary lumbar puncture needle is used; after the skin is cleaned the needle is inserted through the abdominal wall about 5 cm. below the umbilicus and 2.5 cm. to either side of the midline. There is little danger of puncturing the intestine, but it is not safe to make a puncture in the region of an old operation wound. Oxygen is run through the needle from an ordinary cylinder until the abdomen is distended and dome-shaped. Usually about 4 litres of gas are necessary. The patient may complain of a sense of fullness and some pain about the shoulders, but an opiate is rarely necessary. After the patient has rested for an hour, the radiographic examination is effected. Various positions are described for the examinations of the different organs. A series of radiograms illustrate the value of this method of examinations in such conditions as gumma of the liver, peritoneal adhesions, new growths, free fluid in the abdominal cavity, etc. The oxygen is absorbed within twenty-four hours and the patient is not harmed by the examination. The method is not intended to supplant the opaque meal examination, but is supplementary to it.

(41) Lung Abscess.

W. Whitmore (*Surg., Gynec. and Obstet.*, August, 1920) states that lung abscess rarely occurs after a lobar pneumonia, but is common after the inhalation of infected material. The diagnosis should be made before any operation is undertaken. The conditions from which it must be differentiated are bronchiectasis and encapsulated empyema. The drainage of lung abscess and empyema gives a good outlook for permanent cure; but operation in bronchiectasis is absolutely contra-

indicated. In forming a diagnosis, the clinical history is of great importance and the presence of elastic fibres in the sputum points to the presence of pus. If large numbers of influenza bacilli are present, the condition is almost certainly bronchiectasis. X-ray examination reveals the position and size of the abscess, and if fluid be present in it, the outlook for cure is very bright. A definite shadow without fluid contraindicates interference, as the condition may be due to bronchiectasis or unresolved pneumonia. Physical signs are of practically no value and are often misleading.

(42) The Radiator Type of X-Ray Tube.

W. D. Coolidge is still busy improving his radiator type of X-ray tube. He describes (*Amer. Journ. Röntgenol.*, April, 1919) an improvement in the self-rectifying radiator tube, which allows of the passage of higher milliamperage through the tube. Originally the tube was limited to 10 milliamperes at a parallel gap of 12.5 cm., but by increasing the focal spot by less than 1 mm. the capacity of the tube has been greatly increased. The tube, being self-rectifying, can be connected directly to the ends of a step-up transformer and thus obviate the use of any rectifying device. It can also be used on any type of induction coil or interrupterless machine. Currents of 30 ma. at 12.5 cm. gap can be run through the tube for 6 seconds and after a rest of 40 seconds, the tube can again be used; this process may be repeated indefinitely. With larger intervals of rest, 35 ma. at the same spark gap can be passed for 30 seconds; this is far in excess of present exposure practice.

(43) Röntgen Ray Burns.

W. D. Witherbee discusses the danger of burns resulting from repeated X-ray exposures (*Amer. Journ. of Med. Sciences*, August, 1920). Using the common technique of 40 milliamperes of current at 60,000 volts and 50 cm. target-plate distance, the author shows that only two plates of the skull can be taken with safety if the usual exposure of 12 seconds is given; in other regions, where the skin is at a greater distance from the source of rays, greater numbers of exposures may be made, e.g., elbows, etc. A useful table of safety exposures is given. The habit of patients passing from one hospital to another is extremely dangerous and may lead to accidents unless the amount of X-rays previously administered is known. If no erythema has appeared in three weeks, the dosage may be repeated, but in the presence of an erythema no further applications should be given for a further period of three weeks. By interposing a 0.5 mm. aluminium filter, three times the number of plates may be taken with safety.

BIOLOGICAL CHEMISTRY.

(44) Chlorides in the Blood in Disease.

Victor C. Myers has devised a new

and simple method for the estimation of chlorides in the blood and discusses the changes of the chloride content of the blood in disease (*Journ. of Lab. and Clin. Medicine*, October, 1920). The proteins of the whole blood or plasma are precipitated with picric acid and the chlorides in the filtrate estimated with the aid of silver nitrate and ammonium thiocyanate. The preliminary estimation of the chloride content of the blood in cases of nephritis may often be of great assistance, particularly in indicating the extent to which chlorides should be restricted in the diet. Furthermore, this estimation should be utilized to determine when the blood chlorides have returned to their normal level. It is believed that, in the past, chloride restrictions have often been made when they were not indicated and have been continued until in some cases the chlorides in the blood reached a subnormal level. In general it may be stated that large amounts of chlorides have been found in the blood in cases of nephritis, certain cardiac conditions and anemia and in some cases of malignant disease, while low values have been observed, notably in fevers, diabetes and pneumonia. The chloride retention in most cases of nephritis apparently results from impaired renal function. The excretion of chlorides and the excretion of nitrogen seem to be independent functions. In contrast to so-called parenchymatous nephritis, the function of excreting chlorides in interstitial nephritis appears to be much less impaired than that of excreting nitrogen. Consequently, a restriction in the chloride intake in the latter condition may restore the chlorides promptly to normal. It is of considerable interest that the chloride retention in pneumonia is associated with a decrease in the chloride concentration in the blood.

(45) A Deficiency in Heat Treated Milks.

Amy L. Daniels and R. Loughlin have investigated the biological value of heated milk (*Journ. of Biol. Chemistry*, November, 1920). Previous investigations dealing with this subject have been somewhat contradictory, some authors contending that while certain chemical changes have resulted from the processes employed, they have not altered the biological value of the milk. On the other hand, there are experiments which indicate that the nutritive value of raw milk is much greater than that of boiled milk. Substances which have been considered as possibly responsible for the lack of physiological well-being of animals fed on heat-treated milk are the casein, the anti-neuritic vitamin and the anti-scorbutic vitamin. The present authors have found that milk brought quickly to the boiling temperature and held there for only a short period is little affected, while that which has been heated for a considerable time (35 minutes), even below the boiling temperature, is so changed that it fails to meet the nutritive requirements of rats. The growth curves of rats fed with

pasteurized milk were similar to those of animals which received the milk heated slowly to the boiling temperature. With unsweetened, evaporated milk, the animals made almost no growth and died after a few weeks. The animals fed on sweetened condensed milk made decidedly better growth than any of the rats fed on other forms of long heated milk. No evidence could be obtained that the results were due to destruction of vitamins. The insoluble precipitate on the sides and bottom of some of the cans of evaporated milk suggested that inorganic constituents, in part at least, might be responsible for the growth failures. The addition of calcium lactate to the evaporated milk and milk treated by heating for a long time had a marked effect, the rats making fairly satisfactory gains in growth. The growth was, however, not quite normal, suggesting that calcium lactate only in part made up for the deficiency produced by heat treatment of milk. With calcium glycerophosphate the growth was much better. The conclusion drawn is that, in the process of heating, the calcium salts are rendered more or less insoluble, the insolubility depending on the length of time the milk is heated. In this insoluble form they may be lost, separating out on standing. When especial care was taken to include the insoluble material by colloidal suspension, results comparable with those on raw and quickly boiled milk were obtained.

(46) Calcium Requirement for Maintenance in Man.

H. C. Sherman has summarized the data of a large number of laboratory experiments as to the requirement of calcium for maintenance in man and has compared them with the findings of observations upon actual food supplies (*Journ. of Biol. Chemistry*, October, 1920). It has been demonstrated that calcium necessarily occupies a prominent place in inorganic food supply and is one of the limiting factors in a very large proportion of our staple foods, so that the measurement of the calcium requirement in man and the comparison of the amount of calcium required for normal human nutrition with the amounts found in the ordinary freely chosen food of representative families are matters of considerable interest. It is by no means safe to assume that a freely chosen food supply would always furnish calcium in quantity sufficient to afford a safe margin above the actual requirements of normal nutrition. A series of one hundred cases of reasonably comparable experiments, collected from various sources, shows that the mean result for the calcium requirement is 0.45 gramme, with a probable error of ± 0.008 gramme. From the amount of protein required in these cases, it is calculated that a food supply, in order to furnish protein and calcium in relative proportions, corresponding to the needs of the body, should contain at least 1.0 gramme of calcium or 1.4 grammes of calcium oxide for every 100 grammes of protein. The comparison of dietary studies or records of actual

food supplies of American families with the laboratory evidence of nutritive requirements suggests that very many more American dietaries are deficient in quantity of calcium than are deficient in quantity of protein. If, in all the dietaries studied, 224 in number, which contained less than 3,000 calories per day per man, the amount of food had been increased up to that level, there would have been no case of protein deficiency, while 7%, or one in every fourteen, of the dietaries studied would still be deficient in calcium. There seems no room for doubt that more attention should be given to the calcium intake, both in human nutrition and in that of farm animals. Milk in its various forms is the obvious substance to be increased in human dietaries.

(47) Amino-Acids of the Blood as Precursors of Milk Proteins.

C. A. Cary has determined the amino-acid contents of the blood of the mammary vein and the jugular vein respectively of lactating and non-lactating cows to determine whether the milk proteins could come from the free amino-acids circulating in the blood (*Journ. of Biol. Chemistry*, September, 1920). The formation of milk in the mammary glands of lactating cows is so rapid that a determinable reduction of the precursors of milk constituents in the blood may reasonably be expected. The amino-acid nitrogen of the blood was determined by the nitrous acid method of Van Slyke. The amino-acid nitrogen of the blood and blood plasma obtained from the mammary vein in non-lactating cows was practically the same as that obtained from the jugular vein. The amino-acid nitrogen of blood and blood plasma obtained from the mammary vein in lactating cows was decidedly lower than that obtained from the jugular. The mammary plasma was found to contain from 16% to 34% less amino-acid nitrogen than the jugular plasma. The amino-acids thus picked up by the mammary gland from the plasma of the blood perfusing it are sufficient to account for the proteins of the milk and are undoubtedly the precursors of these milk constituents.

(48) Digestibility of Raw Corn Starch.

C. F. Langworthy and Harry J. Deuel have investigated the digestibility of raw corn starch in the human intestine (*Journ. Biolog. Chemistry*, March, 1920). Raw starches are generally considered to be digested only slightly, if at all, by the human body. On an average, three subjects ate 250 gm. of raw corn starch a day during the three days' experimental period, in the form of a frozen custard in which starch was combined with milk, sugar and a little salt and flavoured with lemon extract to mask the "starchy" taste. Examinations of the faeces did not show any starch. The digestibility of raw corn starch was found to be 100%. So far as could be seen, its ingestion had no abnormal physiological effects and the subjects remained in their accustomed good health.

British Medical Association News.

SCIENTIFIC.

A clinical meeting of the New South Wales Branch was held at the Mental Hospital, Callan Park, Rozelle, on October 8, 1920, Dr. W. F. Litchfield, the Honorary Medical Secretary, in the chair.

At the beginning of the meeting the members were given an opportunity to examine patients and to listen to short demonstrations on the various conditions selected. Dr. G. P. U. Prior had assembled a series of patients suffering from glandular deficiency, Mongolian imbecility and analogous conditions.

The first four patients were epileptics of the apituitary type. Three of the men were about 157.5 cm. (5 ft. 2 in.) in height and from 86 to 87.5 kilograms in weight (13 st. 8 lb. to 13 st. 11 lb.). In each case there was deficient growth of hair on the body and face. The axillary hair was absent or scanty, while the pubic hair was of effeminate formation. The mammary glands were large and pendulous. The hands and feet were small and clubbed; the genital organs were undeveloped; the supra- and infra-clavicular spaces were obliterated and the fat distribution generally of the feminine type. In all four patients the blood pressure was low. The highest in the standing position was 115 mm. Hg. and the lowest 95 mm. Hg..

A woman aged 32 years was also shown. She was congenitally weak-minded and belonged to the apituitary group.

She had been to school for three years, but could only read and write a little. Her height was 155 cm. and her weight 95 kilograms. She had a very irritable temper. There was some resemblance in the condition to that of the athyreoid type, but the patient's hair was thicker and more glossy, her skin was smooth and moist and in spite of her excessive weight, she was an active worker and quick in her movements. The menstrual function was normal and regular. She had been treated for four months on thyreoid extract in doses of 0.6 grm. daily. Under this treatment her weight had diminished by 8 kilograms and she had become mentally brighter and less quarrelsome. When the medication was discontinued, the weight increased. It was suggested that the thyreoid hormone acted by stimulating the pituitary gland.

The next patient was a small-headed imbecile aged 31 years, with abundant growth of hair all over his body. He spent the greater part of the day lying on the ground or on any convenient object, did not converse with anyone, appeared to be quite indifferent and to have no interests and displayed faulty habits. His blood pressure was under 100 mm. Hg.. The only change in the blood was that the small mononuclear cells were nearly as plentiful as the polymorpho-nuclear cells. The blood sugar content was 0.05% and there was no urinary reaction to 0.03 c.cm. of adrenalin. The dermatographic reaction was white. His condition was regarded as being originally one of hyperactivity of the suprarenal glands which had passed into a condition of hypoactivity. He had been treated with thyreoid gland in doses from 0.03 to 0.06 grm. daily and injections of adrenalin on alternate days. A profound change had gradually taken place. He had become lively and bright, conversed quite freely and employed himself usefully. He became a keen card player and had made two attempts to escape. After the improvement had become manifest, it was found that the blood sugar varied between 0.05% to 0.16%. There was a slight reaction to adrenalin.



FIGURE I.
Epileptic of Apituitary Type.

The next patient exhibited was a female epileptic with dementia of long standing. The secondary sex characters were of the male type. It was suggested that this condition resulted either from diminished ovarian action or increased suprarenal action. As a pendant to this case, Dr. Prior presented the notes and photograph of an elderly female patient who had died at the age of 78 years. She had had a very masculine appearance and possessed a deep male voice. During the 20 years of her residence in the Hospital, she had been in a condition of chronic mania and had been constantly pugnacious. It was found *post mortem* that her ovaries were almost completely atrophied, the thyreoid gland weighed 7.8 grms. and each suprarenal 11.7 grms.. There was extreme atrophy of the pancreas and degeneration of the suprarenal bodies.

The next patient was a woman suffering from moral imbecility with excessive thyreoid activity. All the classical symptoms of Graves's disease were present. Her pulse

rate at the time of her admission had been 140 per minute. She had been treated with an injection of pituitary extract, which had given rise to a somewhat alarming condition. Her pulse became imperceptible, her breathing rapid and extreme pallor had developed. Later she improved considerably under treatment by rest, extract of the whole pituitary gland and frequent enemata. After a time she



FIGURE II.
Epileptic with Dementia (Female of Male Type).



FIGURE III.
Moral Imbecility with Excessive Thyreoid Activity.

refused to rest or to take her medicine and the improvement disappeared.

The next patient was a Mongolian imbecile, aged 14 years, with spade-like hands and feet, dry skin and scanty hair,

indicative of athyreoidism. There was insanity in the family. She had learned to walk at seven years and to talk indistinctly at nine years of age. She was very irritable. At the age of 13½ years menstruation appeared. At about the same time she developed the secondary sex characters

as well as sexual inclinations. For this reason she was removed from her home. Under the influence of thyreoid medication considerable improvement had been achieved. The condition of the skin and the hair was better, the dribbling habit, which was formerly constant, had ceased and the child became talkative and spoke clearly. She had been taught to scrub, to fold cloths and to perform other domestic duties which she did with much pleasure.

In contrast to this case, Dr. Prior submitted the details connected with a patient, aged 32 years, who had died of a cerebral abscess supervening on middle-ear disease. The skin and hair had been normal, the hands and feet had been small but

not stubby or spade-like. This patient had suffered from attacks of tetany associated with the menses. She had been of low intelligence, had understood little of what was said to her and had been unable to talk distinctly. The thymus gland was large and of infantile type. In the suprarenals there was much vacuolation and they were said to have been of sub-normal activity.



FIGURE IV.
Same Patient as in Figure III.



FIGURE V.
Mongolian Imbeciles.

The data concerning an imbecile lad who during life had shown all the signs of apituitarism, were given. The boy's height was 157.5 cm. and his weight 59 kilograms. He could not read; he knew some letters but not others. He knew his figures but could not do the simplest addition. He was quiet and good-natured, but easily led into mischief. About a month before his death distinct twitching of the ring and little fingers of the left hand was noted. There was wast-

ing of the upper and lower extremities on the left side. There was progressive paresis of the lower limbs. The gait was staggering. All the reflexes were increased. The pupils were normal, but there was slight exophthalmos. At the *post mortem* examination the meninges were found to be thickened and opaque and much adherent. The vessels were engorged. There was a large amount of cerebro-spinal fluid and considerable distension of the lateral, third and fourth ventricles. The *sella turcica* was composed of greatly thickened and dense bone which had encroached on the space occupied by the pituitary gland. Both the pituitary gland and the pineal gland were dense and hard. The latter was larger than normal. The thymus gland was large, while the thyreoid weighed only 7.5 grms.

The next patient shown was a lad who had been admitted at the age of 13 years, in June, 1916. Two years previously he had been knocked down by a motor car. He had been unconscious for five days. On regaining consciousness he manifested double internal strabismus. He became absolutely untruthful and quite irresponsible; further education was found to be impossible. A year after the accident he had fifteen epileptiform attacks in one series. His memory became defective, he wandered from home, committed various sexual offences and was cruel to animals. When admitted to the mental hospital his chest development was good with an expansion of about 7.5 cm. His hands and feet were large. The organs of generation were developed out of all proportion to his age; otherwise, he was not apparently abnormal from a physical point of view.

Six months later he became less alert and less talkative. His hair became coarse and thin. The skin reflex, which had been red, changed to a white marking which lasted for several minutes. He had periodical series of epileptiform attacks, which left him mentally dull and confused. A differential blood count revealed 51% of polymorpho-nuclear cells, 12.5% large lymphocytes, 27.5% small lymphocytes, 3% eosinophile cells; 5% large hyalin cells and 1% mast cells. The blood sugar varied from 0.07% to 0.11%. A slight trace of sugar appeared in the urine 1½ hours after a subcutaneous injection of 0.5 c.cm. of adrenalin solution. Great improvement took place in response to 0.03 grm. of thyreoid extract given twice daily. He became brighter and his memory improved. No abnormality of the *sella turcica* was detected in the skiagram. It was suggested that the injury had led to an irritative lesion of the anterior lobe of the pituitary, giving rise to the sexual over-development, activity and perversion. The effeminate symptoms were



FIGURE VI.
Traumatic Pituitary Lesion.

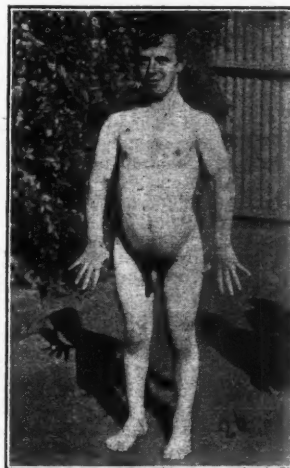


FIGURE VII.
Achondroplasia-like Condition.

ascribed to a want of secretion of the posterior lobe, while the symptoms of athyreoidism were regarded as secondary to the pituitary changes.

The next patient illustrated a different type of affection. He was a boy aged 18 whose height was 145 cm. and whose weight was 47.5 kilos. His hair and skin were normal and his bones were short and thick. He was capable of occupying himself usefully, but had no initiative and was easily led into mischief. The condition was regarded as akin to achondroplasia. (See Figure VII.)

As a contrast to this patient, three others were shown who were suffering from Mongolian imbecility. All three had spade-like hands and feet, rough dry skins, scanty dry hair, thick lips and under-hung jaws.

The next patient was a mentally deficient lad aged 18 years, who had been guilty of petty stealing and similar offences. The condition was of the eunuchoid type. He was tall and his extremities were long. The genital organs were small and undeveloped and the secondary sex characters were deficient. The mammary glands were enlarged, the enlargement involving the glandular substance as well as the fat. There was a persistent thymus gland. Sargent's white skin reflex was present and of long duration. This case was regarded as primarily a deficiency of testicular secretion and secondarily deficiency of the thyreoid and suprarenal secretions. The persistence of the thymus was attributed to the infantile condition of the testes.

The next patient was 71 years of age and had been in hospital for eight years. The condition was one of gonad deficiency. The genital organs were infantile, the breasts were large and pendulous, the fat distribution was of a feminine character and there was scanty growth of hair on the face and body. The hands and feet were small and slender, the pelvis large and well-formed, and the voice high-pitched and of peculiar intonation. The patient's intelligence was very limited.

The next patient was an epileptic with signs of apituitarism. He was small in stature, his height being 157.5 cm., while his weight was over 86 kilograms. The hair growth on the body and face was deficient and, the distribution was of a feminine type. The blood pressure was 95 mm. Hg. The temperature was subnormal. On one occasion only did it reach the normal line. This was after an injection of pituitary. There was an almost constant glycosuria, the sugar content of the urine varying from a slight trace to 0.37%. The sugar content of the blood varied between 0.13% and 0.21%. The patient had on an average 13 fits each month. No improvement followed treatment with pituitary extract. Treatment with calcium chloride and potassium bromide apparently led to a great reduction in the number of attacks.

Dr. Prior exhibited an epileptic patient for the purpose of demonstrating a remarkable dermatographic reaction. The epilepsy had started two months after marriage and 12 years after a severe head injury. The marks of tracing a letter or other sign on the skin were discernible four or five hours later. According to Tracy, of Boston, a white reflex was invariably obtained in epileptics. Tracy regarded the reaction as a result of an increased secretion of adrenalin, depending on a lesion of the sympathetic. Sargent, on the other hand, described the reaction as a symptom of adrenalin insufficiency. The patient exhibited had been treated with one gramme of thymus daily together with bromide, on the assumption that the signs and symptoms were due to overactivity of the thyreoid gland and suprarenal capsules. Treatment resulted in a reduction in the number of fits.

The next patient was a woman suffering from angio-neurotic oedema of the type known as Milroy's disease. She had been admitted to a mental hospital in December, 1911, with the signs of recent mania and moral insanity. At the age of 18 the patient had become pregnant and subsequently had suffered from gonorrhoea. In January, 1914, treatment for double saphingitis, *retroflexio uteri*, pyelitis and cystitis had been undertaken. In April, 1916, she was admitted to Callan Park in good physical health. In May, 1920, she complained of pain in the right hip-joint and later she had pain in other joints. The right ankle became swollen. In November, 1917, swelling and oedema appeared, extending from the right hip to the right ankle. No filaria were discovered in her blood. In January, 1917, after complaint of severe headache, lumbar puncture had been performed

and 17 c.cm. of cerebro-spinal fluid had been allowed to escape. A silkworm gut drain was applied under the skin of the inner surface of both thighs with only temporary benefit. Later, several incisions were made; the fluid drained for a time, but the size of the limb was not reduced. Several hard, round nodules tender to the touch appeared. About the same time the right arm became swollen and there was tenderness along the course of the chief nerves. Lumbar puncture was performed and it was discovered that the cerebro-spinal fluid was under increased pressure. Twenty cubic centimetres were removed. The patient then complained of abdominal pain and recurrent headache. She vomited at times. Relief was obtained as far as the headache was concerned, by lumbar puncture. She was treated with injections of adrenalin and calcium iodide at first intermittently, on account of the resistance offered by the patient to treatment. The swelling became less while she was under this treatment. At a later date giddiness, breathlessness and pallor of the face indicated that she was not tolerating adrenalin well. Suprarenal substance and extract of thyreoid gland were then substituted. A slow but continuous improvement was manifested, not only in regard to the oedema but also to the patient's mental condition. In discussing the pathology of this case, Dr. Prior called attention to the fact that the resistance of the patient rendered it almost impossible to carry out diagnostic examination of the blood and urine. The question of gonorrhoeal rheumatism was considered in the earlier stages of the illness, more particularly because diplococci were present in the urine. The appearance of a generalized oedema rendered this diagnosis improbable. Filaria were sought without success. There was no apparent blockage of a venous channel, while it was obvious that the oedema was not of cardiac, renal or portal origin. The condition differed materially from the ordinary form of angio-neurotic oedema but corresponded to Milroy's disease, in which the oedema attacked first one limb and then another until all four were affected. Milroy's disease was usually held to be hereditary and incurable. It was pointed out that no history of similar conditions in other members of the family could be elicited.

A woman aged 37 was presented to illustrate the condition of mixed glandular dystrophy. The patient was unintelligent and her general appearance was like that of a boy. There was no mammary development. The hair of the head was thin and fine and there was no axillary hair. The skin was dark and pigmented in the axillae, around the garter lines and on the forearms. There was no dermatographic reaction. The thymus and thyreoid were not detectable. The patient had never menstruated and it was stated that the ovaries and uterus were infantile.

In the last place, Dr. Prior presented two patients affected with spastic diplegia. The first patient had a microcephalic head. He was physically well-nourished. The lower extremities were paralysed and the upper extremities partially paralysed. There was distinct nystagmus. The pupils were equal and reacted to light. The wrist and triceps jerks as well as the knee jerks were exaggerated. Ankle clonus was obtained on both sides. Babinski's sign was elicited on the left side. The lower extremities were wasted and somewhat spastic and could not be extended. In the paretic upper extremities there was bilateral wrist-drop with shortening, wasting and spasticity of the flexors. The hands could not be extended on the forearm nor the forearms on the arm. The thenar and hypothenar eminences had disappeared. There were some trophic disturbances evidenced by coldness of the hands and feet, dryness of the skin of the feet and brittleness of the toe nails.

The second patient was a small, thin man 38 years of age. His elbows were flexed and his hands were acutely flexed on the forearms. The hips and knees were also flexed. The patient had a large head and a protruding lower jaw. The knee jerks were somewhat increased and ankle clonus and Babinski's sign were obtained on both signs. The patient had no control over his bladder or bowel. There was wasting of the muscles of the lower extremity with marked spasticity. There was spasticity in all his limbs. The musculature of the upper extremity was wasted, especially the muscles of the hand.

In connexion with these cases, Dr. S. Evan Jones had examined the endocrine glands of 20 male and 12 female

patients who had suffered from epilepsy and had died in the hospital. In eight of the 12 female patients the ovaries had been examined. In every case there was extreme fibrosis, the stroma being composed of fibro-cellular elements. In many areas the glandular tissue had disappeared completely. The walls of the arterioles were thickened while the capillaries were thin and dilated. Dr. Evan Jones regarded these changes as indicating deficiency in activity of the organs. The thyroid glands had been examined in 25 instances. Two types were recognized, namely the quiescent and the active. In the former the vesicles were large and lined with flattened epithelium, while the in-

were also diminished. There was puffing of the cheeks in inspiration. The extensor and flexor muscles were somewhat wasted. She awakened from time to time, spoke and even replied to questions. On May 8, 1902, she died. A tumour was found in the posterior upper part of the left mid-sphenoidal lobe involving both the upper and lower lobes. A small nodule was found in the left occipital lobe. On microscopical examination the tumours proved to be round-cell sarcomata.

The second patient was a single man who had suddenly become demented. He refused to get out of bed and became faulty in his habits. He was admitted to the Hospital

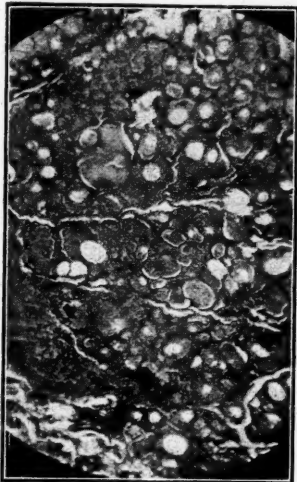


FIGURE VIII.
Thyroid Gland (Quiescent Type) in Epilepsy.

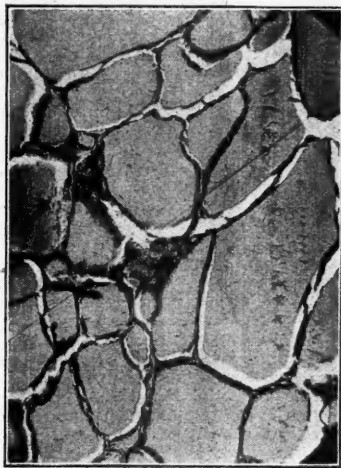


FIGURE IX.
Thyroid Gland (Active Type) in Epilepsy.

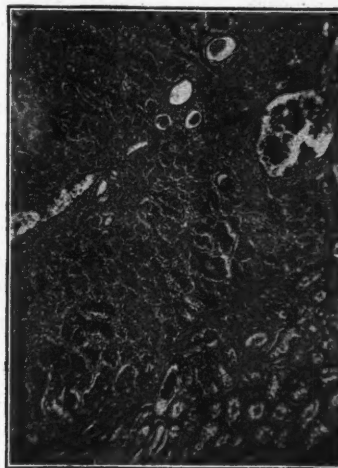


FIGURE X.
Suprarenal Gland in Epilepsy, Showing Abnormal Relation to Renal Tubules.

terstitial cells were few in number. In the active type the vesicles were relatively small and were lined with proliferating cubical epithelium. The testes of 15 patients were examined. In four there was a deficiency of the interstitial cells with fibrosis. The liver of 19 epileptics was examined. It was apparently normal in two cases, while in 17 there was either fatty degeneration or fatty infiltration. A *post mortem* examination was conducted of the bodies of 32 epileptic patients. In 25 there was persistence of the thymus gland. At the times the gland was as large as the palm of the hand, while in other cases its presence was detected only on microscopical examination. Two types were recognized. The first was the persistent infantile type in which the thymus retained all the macroscopical and microscopical characters of the infantile gland. The second type was the regenerative and was characterized by islets of genuine thymus tissue embedded in fat. In all the specimens there was extreme vascularity. In 21 out of 29 suprarenal capsules examined, degenerative changes were found. These changes were most marked in the cortex. The cells took the stain badly, the nuclei stood out well, while the cytoplasm was seen to be coarsely granular or to be represented by a fine network enclosing clear spaces. Degenerative changes were found in the medulla in four of the specimens.

Dr. H. C. McDouall read the notes of three patients who had suffered from cerebral tumours and exhibited the pathological specimens. The first patient was admitted to Callan Park on March 3, 1902, with dementia following acute mania. She had been referred from the Balmain District Hospital. The earlier symptoms included pains in the head and restlessness. The patient was very violent and on several occasions had threatened to commit suicide. When admitted to Callan Park, a sudden change developed and the patient became semi-comatose. The pupils were contracted, there was paresis of the left side of the body, the left knee jerk was sluggish and the other reflexes on the left side

at Gladesville in a somnolent condition. The dementia was marked and he passed his motions in the bed. Otherwise, there were few symptoms. He died after about 17 days. At the *post mortem* examination a large tumour was found in the left hemisphere of the brain almost reaching the grey matter of the frontal lobe. The tumour, which was a giant-cell glioma, involved nearly two-thirds of the whole cerebral hemisphere. A report of the case had been published by Drs. Wallace and Latham in *The Medical Journal of Australia* (November 28, 1914, pp. 516-519).

The third patient was a man aged 57 years, who had been admitted on January 27, 1920, to the Hospital for the Insane, at Gladesville. It was stated that he had alcoholic tendencies, but Dr. McDouall had reason to believe that he was not really a heavy drinker. The patient had complained of a heavy feeling in his head and had felt that there was something wrong. He became faulty in his habits and confused. For a time he improved to some extent. There was no complaint of pain in the head. After about a fortnight the symptoms returned and included giddiness, confusion and a dragging of the right foot. Romberg's sign was present and he had some headache. One or two days later he became semi-unconscious and the right arm was partly paralysed. Other attacks of semi-unconsciousness followed at intervals. The patient died on June 7, 1920. A large tumour was found in the middle temporo-sphenoidal convolution on the right side extending to the angular gyrus. The tumour proved to be a large celled glioma.

Dr. McDouall also exhibited a specimen of duodenal ulcer which had existed in a patient without producing any symptoms. The patient was a strong man of 30 years who had an attack of *delirium tremens* and who was admitted to the hospital for *mania a potu*. A month before admission he was said to have had "spitting of blood." He had felt faint and cold and had vomited about a pint of blood. Subsequently a large amount

of blood was passed in the motion. There was no pain or discomfort. The specimen exhibited revealed that the ulcer was surrounded by thickened tissue and that there was a patent blood vessel.

Dr. J. A. L. Wallace gave a demonstration of various types of *dementia præcox* chiefly in returned soldiers. He distinguished the hebephrenic type in which there were no marked delusions and little disorder of memory; the catatonic type in which there was stupor, automatism and negativism, and the delusional type, including the incoherent form and the paranoid form, resembling what was otherwise known as systematized delusional insanity. A few returned soldiers suffering from the hebephrenic form were presented. Dr. Wallace demonstrated the marked affection of the emotional and volitional mental functions. The patients suffering from the catatonic form all exhibited a wax-like rigidity due to negative auto-suggestion. Two typical instances of the incoherent and two of the paranoid form of the delusional type of *dementia præcox* in soldiers were demonstrated by Dr. Wallace, who successfully displayed the characteristic delusion of each patient. In one case the condition had obviously been present before enlistment.

He also showed a patient suffering from hebephrenic *dementia præcox* who had chopped off the fingers of his left hand in an attempt to commit suicide because he imagined that he had poisoned a "Mr. X."

Dr. S. E. Jones dealt with the question of general paralysis of the insane and cerebral syphilis. For ten years they had been applying the Wassermann test to the blood serum and cerebral spinal fluid of the insane. A positive reaction was obtained in 17 per cent. of the males and in 8 per cent. of females. On the other hand, in cases of cerebral lesions, he obtained positive reactions in 75%. Cerebro-spinal lesions occurred in all stages of syphilis. Various forms of lepto- and pachy-meningitis were met with, especially in syphilitic epilepsy of the Jacksonian type. The first patient shown was a man aged 43 who had been admitted three years before. He had been infected nine months previously. He had had four injections of galy. He complained of severe headache after the last injection. The headache persisted and was associated with insomnia and depression. After a period of unconsciousness hemiplegia appeared on the right side. The cerebro-spinal fluid contained 30 cells to the cubic millimetre and globulin. There was a positive response to the Wassermann test both when cerebro-spinal fluid and serum were used. There was almost complete aphasia. The patient understood spoken language but not written language. There was an improvement in his walking. Dr. Jones pointed out that the lesion was a thrombosis of the middle cerebral artery. Complete restitution occurred at times, but this was unusual. The prognosis as far as life was concerned, was good.

The second patient was a woman whose infection probably dated several years before. She was married and had had three living children and several miscarriages. She had been admitted to the hospital for *mania a potu*. She had had an attack of hemiplegia. There was still considerable paresis of the hand. She could feed herself. There was complete motor aphasia. Dr. Jones raised the question of the etiological importance of alcohol in these cases.

In the third patient the epileptic seizures began five years previously. At first the fits had been infrequent and more recently there had been two a month. A Wassermann reaction had been obtained both with the cerebro-spinal fluid and with the serum. There was an increased cell-content of the cerebro-spinal fluid and globulin. There was slight tremor of the tongue and sluggishness of the pupils. The epileptic seizures were preceded by epigastric aura. The mental disturbance varied with the epileptic episodes. It had not been influenced by treatment. Dr. Jones stated that the condition was indistinguishable from that of ordinary epilepsy.

The fourth patient exhibited typical grandiose ideas, chiefly concerning his wealth and power. There was a history of repeated "strokes." There was marked strabismus. This was probably due to a local involvement of the nucleus of the fourth cranial nerve. The patient was treated by the Swift-Ellis method and considerable improvement had resulted.

The next patient shown exhibited tremors and Argyle-Robertson pupils. There was considerable mental dulness. The serum reacted to the Wassermann test, while the cerebro-spinal fluid did not. There was an increased number of cells in the cerebro-spinal fluid. This patient was also being treated by the Swift-Ellis method.

Dr. Jones's sixth patient was suffering from the juvenile form of general paralysis of the insane. Her father had had venereal disease before marriage. A sister had died in infancy from a wasting disease, while the patient wasted considerably up to the age of nine months. She had had an illegitimate child at 18 years and had married soon afterwards. The mental and physical deterioration dated from this time, no symptoms having been noted between the age of nine months and eighteen years.

Dr. Jones exhibited three patients suffering from Huntington's chorea. One of these patients had been shown at a meeting of the New South Wales Branch in April, 1917 (see *The Medical Journal of Australia*, May 5, 1917, p. 376). The family tree of this case was shown. The first patient was said to be in an early stage of the disease. There was a distinct psychosis. The patient was dull and suspicious. In the second patient the disease was quite typical.

Dr. Ellise V. Pascoe presented two patients suffering from agitated melancholia. The first patient was an unmarried woman aged 57 years who had been admitted to the hospital on November 30, 1919. There was no history of any mental disease in the family. The patient had been employed as a pantry-maid since the age of 13 years. She was regarded as an excellent worker. Five months before admission she had to give up work on account of a "nervous breakdown." She lost confidence in herself and imagined that she could not do her work properly nor do anything right. She was restless and worried and had an idea that she would be arrested. She could not sleep and she took her food badly. At the time of admission she was in good bodily health, but could not be persuaded that she would ever be allowed to leave the hospital. She was extremely depressed. There was marked motor restlessness; she walked up and down constantly, rubbing her hands and picking at her fingers, face and hair. She was unable to carry on a conversation, but ejaculated in a rhythmical manner all day long, "Nurse, nurse, nurse." Her expression was anxious and worried. Since she had been in the hospital she had become ill and had lost weight. She slept and took her food fairly well.

The second patient was a married woman aged 55 years, who had been admitted to the hospital on July 10, 1918. She was said to have been ill for 12 months before admission. The first symptoms complained of were pains in the head, for which she was treated at the Royal Prince Alfred Hospital for seven weeks. On her return to her home she was depressed and inclined to wander. She slept badly and became suspicious. When admitted to the hospital at Callan Park, she was depressed and complained of noises in her head. At times the noises were like voices. She heard a doctor outside talking to her, especially at night time when she was trying to sleep. She was introspective and unable to occupy herself and was emotional at times. At the time of the meeting she was very agitated, depressed and fearful. She was extremely restless, walked up and down, rubbing her hands and picking at her clothes and face. She looked anxious and was obsessed by vague fears of something terrible. She was unable to carry on a conversation, but repeated incessantly phrases connected with small happenings in the ward. She was gradually losing weight and looked ill.

Dr. Oliver Latham exhibited the apparatus used in the bio-chemical examination of blood and cerebro-spinal fluid. In the first place, he demonstrated the use of a series of colorimeters. The simplest type was that of Sahli, which was well known. The Hellige instrument consisted of a glass cup and wedge-shaped glass container. This apparatus was suitable for the comparison of strongly tinted dyes and could be used in some of the tests for estimating the function of the kidney. It was, however, not delicate enough for modern colorimetric work. Two types of Dubosq colorimeter were exhibited. The smaller one, which had been recommended by Folin and Denis, gave a range of 2.5 cm., while the larger one gave a range of 5.5 cm.. The cost of

these instruments in Paris was £7 and £13 respectively. Dr. Latham demonstrated the simple conversion of the Dubosq colorimeter into a nephelometer. This was the result of an ingenious device of Bloor. Dr. Latham pointed out that the alteration had been undertaken for him by the International Equipment Company of Boston, United States of America, at a cost of about £3. He stated that he would be pleased to allow any pathologist interested in the instrument an opportunity of duplicating it. Dr. Latham demonstrated the manner in which substance such as calcium, phosphates, cholesterol, acetone bodies and fats which could be precipitated in cloudy suspension, could be readily estimated.

He then turned his attention to the recent work of Foilin, Denis and others, on the estimation of the total nitrogen, the non-protid nitrogen, the urea nitrogen, the uric acid, the performed creatinine, the sugar, etc., in the blood and cerebro-spinal fluid. He showed a sample of the clear, limpid filtrate of blood from which the protein had been precipitated by the sodium tungstate method. He also exhibited some of the colour reactions obtained in the estimation of sugar, of the total non-protid nitrogen, of the urea nitrogen, of uric acid and of creatinin. The results of analyses of material from the mental and general hospitals of New South Wales were given.

In the next place, Dr. Latham demonstrated the colloidal gold chloride test of Lange. The chief difficulty in connexion with this test was that experienced in the preparation of distilled water of sufficient purity. He demonstrated the application of the test to the cerebro-spinal fluid of three patients. A typical step-ladder curve was obtained in the case of general paralysis of the insane. The curves were plotted according to Kaplan's scheme, full reduction of the red colour of the test red being indicated by the figure 5 and no reduction by the figure 0, the intermediate stages being marked off at 4, 3, 2, 1. The Wassermann test applied to the cerebro-spinal fluid of this patient yielded a positive response; a globulin reaction was obtained, while there were only three cells to the cubic millimetre. In two other cases there was no reduction of colour in the cerebro-spinal fluid on the application of the gold chloride test. Neither of these samples of cerebro-spinal fluid yielded a Wassermann reaction. Dr. Latham had applied the five tests (Lange's, the Wassermann, the globulin, the cell-count and Nonne's) to the cerebro-spinal fluid of 14 patients. He had arrived at the conclusion that the colloidal gold chloride test was more reliable than Nonne's four-phase test, but expressed the opinion that all the tests should be carried out.

He exhibited Fridericia's apparatus for estimating the alveolar carbon-dioxide tension and Van Slyke's apparatus for estimating the carbon-dioxide capacity of the blood plasma. He explained the use of these apparatus in the determination of acidosis. He also showed a convenient two-chamber hemocytometer made by Hawkesley, of London. The second chamber was twice as deep as the first and was used for the rapid counting of red and white cells in the cerebro-spinal fluid. The apparatus could also be used for estimating the cell content of two samples of cerebro-spinal fluid. In the last place, he showed a heavy tuning fork with 480 vibrations per second recommended for the recording of the vibration-sensation in tabetics by Dr. T. R. Williamson, the neurologist at the Manchester Infirmary.

The undermentioned has been elected as a member of the Victorian Branch:

Ralph Edward Allen, Esq., M.B., B.S. (Univ. Melb.), 1920, Melbourne Hospital.

The undermentioned have been elected as members of the Queensland Branch:

George Thomson, Esq., M.B., Ch.B. (Aberdeen), 1916, Brisbane.

M. E. Robinson, Esq., M.B., B.S. (Melb.), F.R.C.S. (Edin.), Kuridah, Queensland.

On January 18, 1921, the *Ventura*, arriving at Sydney from San Francisco, had a passenger on board suffering from variola. The ship was immediately placed in quarantine and the usual methods of prophylaxis were observed. No further case has developed among the passengers or crew.

Correspondence.

IMPURE MILK AND INFANT MORTALITY.

Sir: Many notices have appeared quite recently, both in the public press and the medical journals, regarding infantile illness and death attributed to decomposed milk, giving rise to diarrhoea, marasmus and death. In looking over a recent issue of a medical journal, I observed the opinion of a medical officer of health in England, who advised the total suspension of milk diet during the hot season, when enteric disturbances are prevalent in young children and the use of barley water mixed with white of egg and malt extract. The proportions are a small teacupful of barley water, white of two eggs well whipped up and one teaspoonful of malt extract. During summer I have recommended this diet for sick children with perfect success and in a few days one can observe not only stopping of bowel trouble, but a quite distinct gain in strength and firmness of flesh and muscle, which, in young children, is such a reliable sign of nutritive improvement and general well being. Even in country districts like this, where almost every man and woman has a cow in a clean paddock and fresh water to use, indifference to the sterilization of milk containers is not observed and milk rapidly becomes germ laden.¹

The combination of the diet suggested is simple, inexpensive and effective for the purpose of sustaining life and nutrition and the materials are not liable to germ infection or growth of bacteria.

I find few young mothers understand the making of barley water as it should be for infant feeding. Over-boiling and too much barley is the usual error. Barley water for infants should be thin and liquid, not thick and lumpy and, of course, if necessary, some sugar may be added, but malt extract may replace sugar. In practice I find this diet is extremely useful for a few days during enteric disturbance and febrile conditions.

Yours, etc.,

J. DE B. GRIFFITH.

Somerville, Victoria (undated).

THE METABOLISM OF FATS IN INFANTS.

Sir: In a consideration of the metabolism of fats in infant feeding, Czerny finds that "an increase of the amount of fat in the food will bring out eruptions on the skin." This conclusion has been supported by the direct metabolism experiments of Steinitz and Weigart. It has also been found that the severity of the eruption bore a direct relation to the excess of fat in the food. These conclusions, however, are drawn up on an artificial excess of fat in the diet of a normal baby.

It may be of interest, in the light of the above findings, to record a case in which the excess of fat was brought about by a definite inability to digest a normal amount of fat in breast milk.

A two weeks old infant, A.B., was brought to me for treatment on account of colic and indigestion. The stool was typical of fat indigestion, slaty-grey in colour with tenacious fat curds.

On further macroscopic examination of the clots the urine appeared to stain it yellowish-green and analysis disclosed bile in the urine. Twenty-four hours after first examination the infant demonstrated a universal eczema of increasing severity.

The diagnosis was reasonably clear, the child was suffering with obstruction of the bile-duct and the normal fat of the milk was indigestible.

It thus acted as a direct excess and produced the typical picture which Czerny draws our attention to.

I mention this case for two reasons:

(1) Apparently the condition may arise apart from any inter-relationship of the metabolism of the carbo-hydrates and that of the fats.

(2) The experiments of Courtney and Freund, in which they proved that olive oil is of benefit in the absorption of fat, are supported by the results of the administration of olive oil in this case.

On prescribing olive oil (min. xxx., t.d.s.) and continuing

¹ Dr. De Burgh Griffiths surely means that the people do not realise the necessity of sterilisation of milk containers.—Ed.

the breast milk, the stool gradually returned to normal and within three days the eruption was negligible.

The obstruction was evidently due to catarrhal exudation.
Yours, etc.,

A. W. ST. LEDGER, M.B., B.S.

Cunnamulla, Queensland,
January 14, 1921.

SUPERVISION AND REGISTRATION OF MIDWIVES.

Sir: Dr. Purdy, in his interesting paper,¹ ignores the fact (or is ignorant of it) that there is a *Midwives Act* in Victoria which practically embodies all he desires. One is surprised to find New South Wales behind us in this aspect of medicine. It seems curious that so "vital" a domain as midwifery lags behind other branches of both curative and preventive medicine. Registration and proper training of maternity nurses will help, but the profession at large must also rouse itself to the importance of this branch of its training and practice.

Another great aid in the reduction of maternal and infant mortality, the latter having remained so stationary during the first month, whilst improving during the remainder of the first year, is the extension of health centres for advice before and after child-birth. Every hospital should also have its ante-natal clinic. We find that expectant mothers readily attend and carry out advice, especially when encouraged by the visits of the centre nurse at her own home. Puerperal septicemia is also a notifiable disease in this State.

Finally, there should be a uniform *Notification of Births Act* throughout the Commonwealth, all births, including still-births, being notifiable within 36 hours, as it is in Britain, and for illegitimate births.

At present, our centre nurses obtain lists from the local registrars of births in their districts, but as these may be up to sixty days, the damage is often done before they can get into touch with the mothers.

Yours, etc.,

CONSTANCE ELLIS, M.D.

84 Collins Street, Melbourne,
January 17, 1921.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xxi.
Department of the Navy: Four Medical Officers.
Melbourne Hospital. Various vacancies on the Medical Staff.
University of Melbourne: Acting Beane Scholar in Pathology.

Royal Alexandra Hospital for Children, Sydney: Honorary Assistant Surgeon or Honorary Assistant Surgeon or Honorary Relieving Medical Officer.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmuir United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phoenix Mutual Provident Society.

Branch.	APPOINTMENTS.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	All Institutes or Medical Dispensaries. Manchester Unity Independent Order of Oddfellows. Ancient Order of Foresters. Hibernian Australian Catholic Benefit Society. Grand United Order of Free Gardeners. Sons of Temperance. Order of St. Andrew. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Australian Natives' Association. Brisbane United Friendly Society Institute. Stannary Hills Hospital.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	Contract Practice Appointments at Renmark. Contract Practice Appointments in South Australia.
WESTERN AUSTRALIA. (Hon. Sec., 6 Bank of New South Wales Chambers, St. George's Terrace, Perth.)	All Contract Practice Appointments in Western Australia.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

- Feb. 1.—Federal Committee of the B.M.A. in Australia.
Feb. 2.—Vic. Branch, B.M.A., Presentation of Balance Sheet, 1920.
Feb. 4.—Q. Branch, B.M.A..
Feb. 8.—N.S.W. Branch, B.M.A., Ethics Committee.
Feb. 10.—Vic. Branch, B.M.A., Council.
Feb. 11.—Tas. Branch, B.M.A., Annual General Meeting.
Feb. 11.—Q. Branch, B.M.A., Council.
Feb. 11.—S. Aust. Branch, B.M.A., Council.
Feb. 15.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
Feb. 15.—Illawarra Suburbs Med. Assoc. (N.S.W.), St. George District Hospital.
Feb. 18.—Eastern Suburbs Med. Assoc., Annual (N.S.W.).
Feb. 22.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
Feb. 23.—Vic. Branch, B.M.A., Council.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated. All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building 30-34 Elizabeth Street, Sydney. (Telephone: B. 4656.)

¹ "Maternal Mortality in Childbirth," *The Medical Journal of Australia*, January 15, 1921, p. 39 et seq.